Chapter 3: Affected Environment and Environmental Consequences

This chapter describes the existing environmental, social, and economic conditions in the Cheyenne Avenue study area and how these conditions would be affected by the No-Build and Leo-Harper Alternatives. Only environmental conditions or resources with the potential to be affected by the proposed action are described in detail. Resources that would not be affected are briefly summarized. For some resources, a discussion of secondary and cumulative impacts is included under the environmental consequences section; otherwise, secondary and cumulative impacts are discussed in Section 3.22, Cumulative Impacts.

The existing conditions are based on existing literature, field surveys, and coordination with local, state, and federal agency personnel. Additionally, meetings were held with the public to help identify some of the existing conditions. Technical reports and the supporting data used to perform the analyses are included in the project's administrative record.

3.1 Land Use

This section describes current land use zoning and land use plans along the Cheyenne Overpass, Pocatello study area. The study area encompasses the south Portneuf River Valley at the south end of Pocatello in Bannock County, Idaho.

3.1.1 Affected Environment

3.1.1.1 Zoning

There are several tiers of zoning that apply within the study area, including county and city zoning districts and ordinances. For those unincorporated lands outside the Pocatello city limits, the Bannock County Comprehensive Plan (BPO 1996) identifies five zoning designations including agricultural, industrial, residential suburban, multiple-use, and city. Of these, only the multiple-use designation applies to the unincorporated lands in the study area. These zoning designations were developed and adopted by the County Board of Commissioners to separate land uses that are incompatible with each other and to mitigate the effects of conflicts in land uses. All land in the unincorporated portion of the county is subject to the zoning restrictions in the comprehensive plan.

Within the unincorporated portion of the study area, Bannock County has zoned the area south of Cheyenne Avenue and east of the Portneuf River as multiple use. Multiple-use zoning is located in areas where a significant mix of uses has already occurred and where there is existing access to roads that can carry the traffic generated by the uses allowed in the district.

Within the incorporated Pocatello city limits, the City of Pocatello Comprehensive Plan (City of Pocatello 1995) identifies five zoning designations in the study area, including residential, commercial general, open space, neighborhood/commercial professional, and warehouse/wholesale. These zoning designations are subject to certain limitations as defined in the City's zoning ordinance.

Within the study area, virtually the entire area zoned residential is located between Bannock Highway and the UPRR rail line. In contrast, all of the commercial general, neighborhood/commercial, professional, open space, and warehouse/wholesale sectors are concentrated in the study area's central and northern locations east of South 2nd Avenue and along South 5th Avenue.

3.1.1.2 Land Use

The current land use patterns in Pocatello can be characterized as low-density residential along the outer limits of existing neighborhoods, developments, and unincorporated areas with commercial areas centralized in a strip-like pattern (City of Pocatello 2001). Assuming current growth and land use trends, about 1,545 acres of agricultural land could be developed in the next 20 years (Shapiro and Associates, Inc. 2000) to accommodate future residential and commercial needs. Figure 3-1, Land Use Map, shows current land uses in the study area. Primary uses have been categorized into five broad designations: agricultural, commercial, residential, public, and undeveloped/other.

Agricultural land use dominates large portions of the study area and is mostly located in the central and southeastern part of the study area, while smaller acreages are adjacent to residential and commercial areas. Most of these agricultural areas are pastures that are irrigated primarily from groundwater sources, although non-irrigated pastures are also present.

Most commercial land use in the study area is east of I-15 along South 5th Avenue, although a small commercial area is just northwest of Cheyenne Avenue adjacent to South 2nd Avenue near the south part of the UPRR yard.

Residential land use is concentrated primarily in the northwest part of the study area. The largest residential areas include the Indian Hills/Johnny Creek and Indian Creek neighborhoods as well as those in the foothills west of Bannock

Highway. Most of these neighborhoods contain single-family dwellings, although several multifamily units are present. On the east side of South 5th Avenue near the I-15 interchange, the South Park neighborhood is another residential neighborhood. A mobile home and recreational vehicle park is located at the south end of this area. Other smaller residential areas are scattered along South 5th Avenue farther to the south, and some single-family residences are scattered throughout the study area. These are generally associated with the agricultural land uses that dominate the south valley area.

Public land uses occupy a large area in the north part of the study area with several smaller public uses in the central and southern parts of the study area. These public uses include Federal, State, and municipal parks; a nature area; recreational fields; and two public schools. In addition, a large portion of the land in the study area is categorized as undeveloped.

3.1.1.3 Land Ownership

As shown in Figure 3-2, Land Ownership Map, lands in the Cheyenne Avenue study area are primarily privately owned and are dedicated to single-family residences, agricultural land, and commercial business properties. The Juniper Hills County Club, UPRR, and Idaho Power Company lands are included in the latter category.

Corridor lands in public ownership are under various jurisdictions including Federal (BLM), State (Idaho Department of Fish and Game [IDFG] or ITD), and local (City of Pocatello, Bannock County, School District 25) administration. Most of these publicly owned lands adjoin each other and combine to form several distinct public-use zones including (from south to north) the highway ponds aggregate source area adjacent to I-15, the Edson Fichter Nature Area, and the Ross Park/Pocatello Zoo complex.

The State of Idaho (ITD) owns the highway ponds aggregate source area at the south end of the study area and the right-of-way along I-15. Bannock County owns the western third of this area and an adjoining parcel that extends farther west to the railroad and includes an irrigated pasture.

The City of Pocatello owns a parcel adjoining the south side of this area. This parcel is one of the aquifer recharge conservation areas managed by the City's water department. The City also owns the majority of public parkland in the northern half of the corridor. In this area, BLM leases an approximately 65-acre parcel to the City for use as open space and preservation of natural habitat. This lease was recently renewed by BLM and the City. Bannock County has a small parcel at the south end of this public park complex where the AMI-Kirkham

trailhead parking area is located. The City also owns and manages Constitution (South) Park on South 5th Avenue.

The State of Idaho, under the administration of IDFG, owns and manages the Edson Fichter Nature Area. This parcel is adjoined on the west by soccer fields owned by the City. Property administered by School District 25 adjoins the soccer field on the western boundary where the Indian Hills School and athletic fields are located. The school district also owns the Century High School property just south of the study area on South 5th Avenue.

3.1.2 Environmental Consequences

3.1.2.1 No-Build Alternative

The No-Build Alternative would not alter the existing zoning, land use, or land ownership patterns in the study area. New residential development near Bannock Highway, particularly in the Indian Hills/Johnny Creek area, and commercial development along South 5th Avenue are expected as Pocatello and Bannock County continue to grow. The No-Build Alternative would be inconsistent with the goals, policies, and strategies outlined in the various comprehensive plans, including the Bannock County Comprehensive Plan and the City of Pocatello Comprehensive Plan, which identify a new east-west collector within the Cheyenne corridor study area.

3.1.2.2 Leo-Harper Alternative

Zoning. The Leo-Harper Alternative would not change the overlying zoning of the study area, and no zoning changes or conflicts would occur.

Land Use. The Leo-Harper Alternative would not change the existing land use and would be consistent with existing land use plans.

Roadway improvements can cause indirect impacts to land use by improving roadway capacity and thus increasing sprawl to areas that were not previously developed. However, the extent of induced development would likely be constrained by the arterial's access-control policy (public roads only every 400 to 800 feet) and by topographic and land ownership constraints near the tie-in. Therefore, the extent to which the proposed action would spur such future development is expected to be limited. Commercial or residential development could occur near the terminus at South 5th Avenue, where currently a few private residences and a mobile home park surround the proposed intersection. More information regarding secondary land use impacts is provided in Section 3.1.2.3, Secondary Impacts.

3.1.2.3 Secondary Impacts

Zoning. The indirect land use changes anticipated east of the South 2nd Avenue tie-in would be compatible with the County's existing multiple-use zoning designation. However, the County has indicated that if this area were developed, they would recommend that the land be annexed by the City before such development. If this annexation occurs, applicable city zoning and ordinances would dictate the nature of future development in this area and would influence how and to what extent it might occur.

Land Use. Indirect or secondary land use changes are expected to occur due to access, zoning, and land ownership patterns in the study area. After Phase 1 of the proposed action is completed, lands east of the South 2nd Avenue tie-in would be expected to develop for residential and/or commercial use. Such a land use change would affect agricultural lands that are currently irrigated and non-irrigated pasture. Secondary impacts resulting from completion of Phase 2 of the proposed action would likely be limited to commercial development near the terminus with South 5th Avenue.

3.2 Farmlands

3.2.1 Affected Environment

3.2.1.1 Prime and Unique Farmland

The study area is either within Pocatello city limits or Bannock County limits and has been developed or is planned for urban development. The Natural Resources Conservation Service (NRCS) has suspended making determinations on prime and unique farmland already planned for development. As a result, environmental issues in the study area concerning prime, unique, local, and state-important farmlands are not discussed in this document. Impacts to agricultural farmland are discussed below.

3.2.2 Environmental Consequences

3.2.2.1 No-Build Alternative

The No-Build Alternative would not directly affect farmlands or agricultural activities in the study area.

3.2.2.2 Leo-Harper Alternative

The Leo-Harper Alternative would take about 11.6 acres of total farmland out of production, including 2.6 acres of irrigated pastureland, 2.6 acres of non-irrigated pastureland, and 6.4 acres of cropland west of the Portneuf River.

3.2.2.3 Mitigation Measures

Owners of farmland within the right-of-way of the proposed action would be compensated according to the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act (URAA) of 1970, as amended, and other State and Federal guidelines.

3.3 Social Environment

This section describes the factors associated with the proposed action that could affect the functioning of human society. The discussion of the social environment is divided into the following parts:

- Socially Disadvantaged Groups and Environmental Justice
- Travel Patterns and Accessibility
- Community/Public Facilities and Recreation
- Public Services
- Neighborhood and Community Cohesion

The data used to conduct this study include the 2000 U.S. census and information from the Web site of the Idaho Governor's Office of Planning and Budget.

3.3.1 Affected Environment

3.3.1.1 Socially Disadvantaged Groups and Environmental Justice

Environmental justice addresses equity in all Federally funded programs and activities as required by Title VI of the Civil Rights Act of 1964 and Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations. According to Title VI and EO 12898, Federal agencies must identify and address the possibly disproportionately high adverse environmental effects on minority and low-income populations, referred to as environmental justice populations, before permitting or approving a program or activity that uses Federal funds. To comply with the regulations of Title VI and EO 12898, the demographic and socioeconomic makeup of the study area were examined.

Minority Populations. As shown in Table 3.3-1, Pocatello has a Caucasian population of 92.3% and a minority population of 7.7%. The minority population is predominantly made up of people of Hispanic origin.

The smallest geographic units for which census data were retrieved for the study area were the five census tracts within or near the study area. As shown in Table 3.3-1, data from the census tracts indicate that three of the five tracts have a smaller percentage of minorities than Pocatello as a whole. The two remaining census tracts have a greater percentage of minorities when compared to Pocatello overall.

Table 3.3-1. Minority Populations

Area	Total Population	Caucasian	Minority	Hispanic Origin[a]
Pocatello	51,466	92.3%	7.7%	4.9%
Study Area Census Tracts[b]				
6	3,264	90.5%	9.5%	5.6%
7	3,467	94.3%	5.7%	3.1%
8	2,414	87.7%	12.3%	5.9%
16.03	2,122	92.6%	7.4%	5.8%
17	3,185	96.3%	3.7%	1.4%

Shaded cells indicate a higher percentage of minorities than in Pocatello overall.

[a] Hispanic persons can be of any race; therefore, itemizations that include both racial minorities and Hispanic persons will add up to more than 100%.

[b] See Figure 3-9, Census Tracts, for census tract locations.

Source: U.S. Census Bureau 2000

Low-Income Populations. In 1999, the median household income for Pocatello was $34,326, and about 10.7% of the population of Pocatello was classified as below poverty level. Following the Office of Management and Budget's Directive 14, the U.S. Census Bureau uses a set of money income thresholds that vary by family size and composition to indicate who is poor. If the total income for a family or unrelated individual falls below the relevant poverty threshold, then the family or unrelated individual is classified as being "below poverty level."

Table 3.3-2 below lists income data on all block groups in the study area and for Pocatello as a whole. As shown in Table 3.3-2, three of the five census tracts in the study area have a median household income that is less than that for Pocatello. In addition, these three census tracts have a higher percentage of people below poverty level than Pocatello overall.

Table 3.3-2. Income Levels

Area	Median Household Income	Percentage of Persons Below Poverty Level[a]
Pocatello	$34,326	10.7%
Study Area Census Tract/Block Groups		
6	$32,656	21.8%
7	$34,803	8.2%
8	$19,257	21.2%
16.03	$25,574	21.2%
17	$69,567	2.2%

Shaded cells indicate a higher percentage of persons below poverty level than in Pocatello overall.

[a] Indicates percent of families whose overall income is below poverty level.

Source: U.S. Census Bureau 2000

Vulnerable Age Groups. Although senior citizens and children are not specifically defined as environmental justice populations according to Title VI and EO 12898, they are considered vulnerable age groups.

Senior citizens account for 10.4% of the population of Pocatello overall. The census tract data from the 2000 U.S. census show that the study area has a senior citizen population similar to that of Pocatello overall except for two tracts that have a percentage higher than Pocatello overall. One tract has a higher percentage of individuals below age 19 compared to Pocatello overall. Table 3.3-3 lists age data for all census tracts within the study area and data for Pocatello overall.

Table 3.3-3. Age Composition

Area	Total Population	Percent of Individuals Age 19 and Under	Percent of Senior Citizens (Age 65 and Over)
Pocatello	51,466	31.0%	10.4%
Study Area Census Tract/Block Groups			
6	3,264	30.3%	10.8%
7	3,467	24.3%	14.4%
8	2,414	26.0%	7.4%
16.03	2,122	26.7%	7.5%
17	3,185	33.6%	9.7%

Shaded cells indicate a higher percentage than in Pocatello overall.

Source: U.S. Census Bureau 2000

Summary. The Cheyenne Overpass, Pocatello study area contains census tracts with a higher percentage of environmental justice populations (low-income and minority populations and vulnerable age groups) than Pocatello as a whole. Some tracts have multiple environmental justice populations, while others have only one type of environmental justice population.

3.3.1.2 Travel Patterns and Accessibility

Two north-south principal arterials serve the south Portneuf Valley area: Bannock Highway (west of the Portneuf River) and South 5th Avenue (east of the Portneuf River). Chapter 1, Purpose and Need, provides more details on these and other roadways in the study area.

Few roadways connect Bannock Highway and South 5th Avenue. Cheyenne Avenue connects South 2nd Avenue and Bannock Highway and provides the only UPRR and Portneuf River crossing between downtown Pocatello and the Portneuf Gap. 2nd Avenue parallels the UPRR and Portneuf River and provides access from Cheyenne Avenue to South 5th Avenue.

People who live and work in the Indian Hills/Johnny Creek community and destinations farther to the south have essentially three east-west mobility options when traveling by automobile to the commercial/downtown parts of Pocatello or south Portneuf Valley areas.

- The first option is to take Cheyenne Avenue to South 2nd Avenue through Ross Park. This travel option traverses the at-grade railroad crossing that the proposed action would eliminate.
- The second option is to take Bannock Highway northwest to Benton Street and cross over the railroad near downtown Pocatello.
- The third option is to take Bannock Highway southeast to Portneuf Road and cross the at-grade railroad crossing several miles southeast of the city near the Portneuf Gap/I-15 interchange.

3.3.1.3 Community/Public Facilities and Recreation

Several community and public facilities are located in or near the study area. These facilities, which include parks and nature areas, golf courses, schools, and trails, are described below and are shown in

Figure 3-3, Community and Public Facilities.

Parks, Nature Areas, and Trails. The largest developed public park area is just north of the study corridor between the UPRR and I-15. This area includes Ross Park and the Pocatello Zoo. Along South 2nd Avenue, the park also includes baseball fields and an aquatic complex.

On the basalt plateau east of South 2nd Avenue is another large area dedicated to open space purposes. Most of this open space is managed by the City, but it also includes an area under lease from BLM. Beginning at the zoo, the AMI-Kirkham Trail heads south across this undeveloped park and terminates at the county trailhead parking area near the intersection of Cheyenne Avenue and South 2nd Avenue.

Other public park areas include the smaller Constitution (South) Park on South 5th Avenue about 0.2 mile south of the I-15 interchange and the Edson Fichter Nature Area south of Cheyenne Avenue between the UPRR and Portneuf River. The Edson Fichter Nature Area is managed by IDFG for public recreation, education, and wildlife habitat values. The Portneuf Greenway Trail is also located in this area and runs parallel to the Portneuf River through part of the Edson Fichter Nature Area.

Schools. The two public schools in or near the study area are Century High and Indian Hills Elementary. The high school is located along the southern segment of South 5th Avenue past Hildreth Road, and the elementary school is located at the intersection of Bannock Highway and Cheyenne Avenue. Both schools include accompanying buildings, schoolyards, and sports facilities. Adjacent to Indian Hills School is a soccer field complex managed by the City.

Golf Courses. Two golf courses are located in the study area. The Riverside Golf Course, located at 3500 South Bannock Highway, is a public course with 18 holes and a driving range. The Juniper Hills Country Club, located at 6600 South Bannock Highway, is a private club. The private club includes an 18-hole golf course, tennis courts, and a swimming pool.

Churches. Three churches are located in the study area: one on Bannock Highway near Leo Lane, one northwest of the Indian Hills subdivision, and one adjacent to the Leo-Harper alignment.

3.3.1.4 Public Services

The City of Pocatello Police Department provides primary law enforcement services in the study area, although the Bannock County Sheriff's Department can provide law enforcement service if needed. Fire protection and emergency medical service (EMS) are also provided by the City. The fire department took over EMS service in 1978. Station #5, part of the Pocatello Fire and Ambulance system, is located in the study area at 5300 South Bannock Highway just south of the Indian Hills Elementary School. Fire trucks and EMS vehicles from this station often experience delays at the at-grade UPRR crossing.

3.3.1.5 Neighborhood and Community Cohesion

The three neighborhoods in the study area are considered to be cohesive. South of Cheyenne Avenue, Bannock Highway serves the Indian Hills/Johnny Creek neighborhoods in southwest Pocatello. The Indian Hills subdivision and the Indian Creek subdivision are both located in this neighborhood, and Cheyenne Avenue generally divides the two subdivisions. Bannock Highway currently separates the Indian Hills subdivision from a smaller residential area to the south. The Indian Hills/Johnny Creek area is one of Pocatello's newer residential areas and generally includes large single-family homes.

The South Park neighborhood is located on the east side of South 5th Avenue south of the South 5th Avenue/I-15 interchange. Many of the residences in this area include mobile homes and small single-family homes. Commercial and residential properties are intermixed on the west side of South 5th Avenue.

3.3.2 Environmental Consequences

3.3.2.1 No-Build Alternative

Under the No-Build Alternative, the existing Cheyenne Avenue crossing would be retained and no new east-west arterial or South 2nd Avenue tie-in would be constructed. There would be no direct impacts to environmental justice populations. However, over time these groups would experience increased delay, decreased safety, and decreased mobility under the No-Build Alternative.

The No-Build Alternative would likely have a negative impact on travel patterns and access in the study area. The current at-grade UPRR crossing at Cheyenne Avenue would continue to be used even though it is a safety hazard and causes east-west traffic delays. East-west mobility options and access to areas northeast of I-15 would remain unchanged and would continue to affect the delivery of public emergency and law enforcement services to the community because of the potential delays at the crossing. Additionally, as the Indian Hills/Johnny Creek

community and the south Portneuf Valley continue to develop, existing traffic congestion, travel delays, and safety deficiencies associated with the existing travel routes would be exacerbated.

The No-Build Alternative would not directly impact any community or public facilities in the study area. However, increased delay resulting from the No-Build Alternative would affect the accessibility of the community and public facilities near the study area.

The No-Build Alternative would not impact neighborhood and community cohesion for the neighborhoods in the study area. Bannock Highway already divides the Indian Hills community, and Cheyenne Avenue separates the Indian Hills subdivision from the Indian Creek subdivision. The neighborhoods in the Indian Hills/Johnny Creek area would remain cohesive within themselves, as would the South Park neighborhood, which is east of South 5th Avenue.

3.3.2.2 Leo-Harper Alternative

Socially Disadvantaged Groups and Environmental Justice

Minority Populations. With the Leo-Harper Alternative, no residential relocations would be required. Minority residents in the vicinity of the proposed alignment would likely experience an increase in traffic and noise.

Executive Order 12898 (Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations), signed by President Bill Clinton on February 11, 1994, directs federal agencies to take appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law.

No minority or low-income populations have been identified that would be adversely impacted by the proposed project as determined above. Therefore, this project is not subject to the provisions of Executive Order 12898.

Low-Income Populations. The Leo-Harper Alternative passes through an undeveloped part of census tract 16.03 that contains low-income populations. Because there would be no residential relocations and because no residences immediately adjacent to the proposed alignment would be affected by noise or traffic, low-income populations would not be disproportionately affected.

In the long term, the bicycle, pedestrian, and roadway improvements proposed would improve travel and intermodal conditions for all populations locally and within the greater Pocatello and Bannock County communities, regardless of race or income.

Travel Patterns and Accessibility

The Leo-Harper Alternative would reduce traffic on Cheyenne Avenue. In addition, with the completion of Phase 2 of the proposed action, traffic volumes on South 2nd Avenue through Ross Park would decline. Before Phase 2 is completed, traffic would likely increase through Ross Park. Improved east-west mobility, decreased delay, and decreased travel times would occur because of the availability of a direct travel route between Bannock Highway and South 5th Avenue.

Community and Public Facilities

Completing Phase 1 of the Leo-Harper Alternative would bring increased traffic into Ross Park. However, with completion of Phase 2 of the proposed action and the east-west arterial, traffic volumes on South 2nd Avenue through Ross Park would decline. This change would enhance pedestrian safety and the quality of the park's recreational experience.

Public Services

The Leo-Harper Alternative would have a direct beneficial impact on public services because the improved traffic accessibility and grade-separated UPRR crossing would reduce delay and improve emergency service providers' access and response times.

Neighborhood and Community Cohesion

The Leo-Harper Alternative would result in reduced travel times between Bannock Highway and South 5th Avenue. This could in turn promote community cohesiveness in Pocatello by providing more convenient access to residences, businesses, and local services for those living in the Indian Hills, Indian Creek, and South Park communities.

3.3.2.3 Mitigation Measures

Throughout planning, design, and construction, business owners, land owners, and residents have been and will continue to be consulted and encouraged to participate in the public outreach programs associated with this project. The business and community advisory groups have already been formed and will continue to hold meetings throughout all phases of this project.

To minimize the potential for negative impacts to the social environment, the design team consulted with neighborhood and business groups and developed

conceptual designs that are sensitive to the existing and planned neighborhoods and community services in the study area.

3.4 Right-of-Way Acquisitions and Relocations

This section discusses the required right-of-way and any relocations potentially required as a result of the proposed action.

3.4.1 Affected Environment

Most of the land east of I-15 and adjacent to the west side of South 5th Avenue is occupied by commercial businesses. A small commercial area is located just northwest of Cheyenne Avenue adjacent to South 2nd Avenue near the south part of the UPRR yard. The Juniper Hills Country Club is located just south of the Edson Fichter Nature Area.

Residential development is concentrated in the northwest part of the study area and includes the Indian Hills/Johnny Creek and Indian Creek neighborhoods as well as those in the foothills west of Bannock Highway. The South Park neighborhood is on the east side of South 5th Avenue south of the South 5th Avenue/I-15 interchange. A mobile home and recreational vehicle park is just south of Constitution Park on South 5th Avenue. Other smaller residential areas are scattered throughout the study area and are generally associated with agricultural land uses.

3.4.2 Environmental Consequences

3.4.2.1 No-Build Alternative

The No-Build Alternative would not require any additional right-of way or the relocation of any residences or businesses.

3.4.2.2 Leo-Harper Alternative

The Leo-Harper Alternative would require the acquisition of new right-of-way. A total of 5.2 acres of pasture (irrigated and non-irrigated), 0.6 acre of a tree farm, 1.9 acres of residential property, 2.5 acres of open space, and 12.6 acres of undeveloped land would be required as new right-of-way for the proposed action.

The Leo-Harper Alternative would not require any residential displacements or relocations.

3.4.2.3 Mitigation Measures

The acquisition of property for new right-of-way and the displacement of individual residences as a result of the proposed action will be mitigated according to Federal, State, and local relocation policies. Assistance and re-establishment expenses will be provided to the displaced property owners and other affected property owners according to eligibility requirements and other requirements of the URAA of 1970, as amended. Relocation resources will be available to each relocated business without discrimination.

3.5 Economics

Economics examines the production, distribution, and consumption of commodities and wealth within an area. Within the study area, much of the areas that are zoned commercial general, neighborhood/commercial professional, open space, and warehouse/wholesale are concentrated in the central and north parts of the study area east of South 2nd Avenue and along South 5th Avenue.

3.5.1 Affected Environment

3.5.1.1 Regional and Local Economy

Bannock County has relatively strong economic ties with surrounding areas, and many workers commute to and from Bannock County for employment. The major industries in Bannock County include semiconductor design, health care, medical product manufacture, food processing, and telecommunications. The J.R. Simplot Company has a phosphate fertilizer plant in Power County, but most plant employees commute from Bannock County. The Bannock Development Corporation, which was formed in 1986, has increased jobs in the area by expanding current businesses and bringing new businesses to the county.

Pocatello, the county seat, serves as a regional economic and commercial business center. A rail yard camp was started in 1882 and the UPRR currently has both shop and yard operations in Pocatello. The UPRR remains an important city and county employer.

Overall, the economies of Pocatello and Bannock County are diversified and are expected to experience moderate growth in the coming decade. Existing firms in the food processing, electronics, and chemical industries are anticipated to provide new basic-sector jobs (BPO 1996). A growing population is expected to increase local demand for housing, goods, services, and jobs in these sectors.

3.5.1.2 Employment

The unemployment rate in Pocatello averaged 4.6% in 2000. The corresponding Bannock County and Idaho unemployment rates were 4.7% and 4.8%, respectively. In December 2001, the unemployment rate in Pocatello had risen to 5.4%. The corresponding unemployment rates in Bannock County and Idaho were 5.4% and 5.5%, respectively (Idaho Department of Labor 2001). Recent BPO forecasts indicate that employment in Bannock County is predicted to increase by about 2.5% annually in the next 20 years, or an increase of nearly 50% by 2020.

As shown in Table 3.5-1, the three top employers in Pocatello are Idaho State University, Pocatello School District 25, and the Portneuf Medical Center (Greater Pocatello Chamber of Commerce 2003).

Table 3.5-1. Major Employers in Pocatello

Employer	Employees
Idaho State University	3,300
School District 25	1,700
Portneuf Medical Center	1,200
American Microsystems, Inc.	1,100
Convergys Business Services	750
Pocatello City Government	620
Union Pacific Railroad	580
Bannock County Government	400
Wal-Mart Retail Store	400
Ballard Medical	380

Source: Greater Pocatello Chamber of Commerce 2003

3.5.2 Environmental Consequences

This discussion of potential local economic impacts of the proposed alternatives includes those impacts that are traditionally examined in a NEPA document, including temporary and permanent effects on the communities' economic base resulting from construction of the alignment. Typically, the economic impacts of a project are the acquisition of homes and businesses and changes in the accessibility of such properties.

Additional indirect impacts that are studied include changes to the local tax base and property values. These are considered secondary impacts because they result from a change in the quality of life of an area due to visual, air quality, and noise impacts from a transportation project.

3.5.2.1 No-Build Alternative

Residents and businesses would continue to use the existing road system and the existing at-grade Cheyenne Avenue/UPRR crossing to travel to work and to purchase various goods and services. The No-Build Alternative could cause secondary economic impacts to the area because traffic conditions would continue to deteriorate. These conditions would result in increased delay; reduced mobility of people, goods, and services through the corridor; and a residual monetary cost in lost wages (see Chapter 1, Purpose and Need).

3.5.2.2 Leo-Harper Alternative

Regional and Local Economy

Constructing the Leo-Harper Alternative would require purchasing additional right-of-way as described in Section 3.4, Right-of-Way Acquisitions and Relocations. A small portion of land would be taken out of agricultural production. No job losses in the agricultural sector are expected, but a small reduction in agricultural revenue from the sale of grass, hay, and cattle products would occur.

In addition, acquiring private land for the Leo-Harper Alternative would reduce the amount of taxable property available to generate income for either the City of Pocatello or Bannock County, depending on the location of the land acquired. The expected reduction in government property tax revenues would be extremely small compared to the total taxable acreage in either the city or county and compared to the total property tax revenue base received by these entities.

After Phase 2 of the Leo-Harper Alternative is constructed, east-west mobility would be improved in the Indian Hills/Johnny Creek and south Portneuf Valley areas. Improved mobility would improve connectivity with and access to the commercial and business sectors along South 5th Avenue, Bannock Highway, and elsewhere in Pocatello. This increased access could make the already-growing Indian Hills/Johnny Creek area a more attractive place to live. Increased residential growth would stimulate the construction industry and induce economic growth by increasing demand for additional goods and services. Along with this induced economic activity, property and sales tax revenue would rise for the city, county, and state.

Employment

The Leo-Harper Alternative would benefit the economic environment of the study area. FHWA has conducted studies of employment impacts resulting from Federal expenditures on highway projects (Keane 1996). FHWA estimates that

for every $1 billion of project expenditures, 7,900 full-time equivalent jobs are directly created, 19,700 jobs are indirectly created, and 14,500 jobs are induced from local expenditures.

3.5.2.3 Mitigation Measures

Throughout the planning phase of the proposed action, business owners, land owners, and residents have participated in the development of the build alternatives in an effort to minimize economic impacts. These groups will continue to be consulted with and encouraged to participate in the public outreach program associated with this project throughout the design and construction phases.

Access to businesses will be maintained during the construction and post-construction phases of this project, as this is ITD's policy with respect to access issues on all ITD roadway improvement projects. Adequate signage will be placed in construction areas to direct motorists to businesses and industrial areas.

3.6 Considerations Relating to Pedestrians and Bicyclists

This section discusses the potential for impacts relating to pedestrians and bicyclists.

3.6.1 Affected Environment

3.6.1.1 School Walking Routes

Indian Hills Elementary School is located in the study area. About 620 students attend Indian Hills Elementary, which serves kindergarten through sixth grade. Indian Hills Elementary is located about 7 miles south of the Pocatello city center on the corner of Bannock Highway and Cheyenne Avenue and west of the Portneuf River.

A primary concern noted in the 1996 LRTP was that, if an alignment between Bannock Highway and South 5th Avenue were to connect with Cheyenne Avenue, it would pass Indian Hills Elementary School and require many students to cross Cheyenne Avenue, a major arterial.

3.6.1.2 Pedestrian and Bicycle Trails

In March 1998, the Pocatello and Chubbuck city councils adopted a community-wide Bikeways Plan. The Bikeways Plan recommends that, as new streets are added to the transportation system or existing streets are repaired or expanded, provisions for bicycle lanes, bicycle paths, or striping should be included. In

addition, BPO's roadway design standards recommend bicycle lanes and pedestrian paths at least 5 feet wide along all new arterial and collector streets.

As shown in

Figure 3-4, Existing Bicycle and Pedestrian Trails, the main pedestrian and bicycle trails in the study area are the AMI-Kirkham Trail, which runs from the Pocatello Zoo to South 2nd Avenue, and the Portneuf Greenway Trail, which runs parallel to the Portneuf River and through part of the Edson Fichter Nature Area. The Portneuf Greenway Foundation and the City of Pocatello plan to extend the Portneuf Greenway Trail farther south along the river. Ultimately, the trail is intended to provide bicycle and pedestrian paths along a north-south corridor through the city with connections to bikeways and pedestrian paths along current and future city streets.

3.6.2 Environmental Consequences

3.6.2.1 No-Build Alternative

The No-Build Alternative would not affect school walking routes or trails in the study area.

3.6.2.2 Leo-Harper Alternative

School Walking Routes

The Leo-Harper Alternative alignment is far enough away from Indian Hills Elementary School that no adverse impacts are expected.

Pedestrian and Bicycle Trails

The Leo-Harper Alternative alignment was modified several times in an effort to avoid environmental impacts, including impacts to the AMI-Kirkham Trail system. Each side of the proposed arterial would include an 8-foot shoulder striped as a dedicated bicycle lane and a 6-foot sidewalk for pedestrians. The South 2nd Avenue tie-in would include a 5-foot shoulder width. In addition, two asphalt-surfaced pedestrian/bicycle path connections would be constructed from the north and south sides of the arterial and would eventually tie into the expanded bicycle path network planned by the Portneuf Greenway Foundation.

As part of Phase 2 of the proposed action, a variable-depth slab bridge would be constructed over the AMI-Kirkham Trail to retain the functionality of the trail segment crossed by the arterial. Additionally, two asphalt-surfaced pedestrian/ bicycle path connections would be constructed from the north and south sides of the arterial to the AMI-Kirkham Trail using an existing spur trail.

3.6.2.3 Mitigation Measures

Appropriate signage will be placed along Bannock Highway so that motorists are aware of the school zone and are alert for children in the neighborhood. Crossing guards will also be stationed at major intersections near the school.

3.7 Air Quality

3.7.1 Air Quality Regulations

3.7.1.1 National Ambient Air Quality Standards

The State of Idaho has adopted the National Ambient Air Quality Standards (NAAQS) shown in Appendix A, National Ambient Air Quality Standards and FHWA Noise Abatement Criteria. The NAAQS include primary standards to protect public health and secondary standards to protect public welfare (such as protecting property and vegetation from the effects of air pollution).

3.7.1.2 Compliance with NAAQS and Other Air Quality Standards

The Idaho Department of Environmental Quality (IDEQ) maintains a network of air quality monitoring stations throughout the State. In general, these stations are located where there are known air quality problems, so the stations are usually in or near urban areas or close to specific emission sources.

Based on monitoring information collected over several years, the Environmental Protection Agency (EPA) designates regions as being attainment, non-attainment, or maintenance areas for particular pollutants. Attainment status means that air quality in the area complies with the NAAQS. Non-attainment areas are out of compliance with the NAAQS, and maintenance areas are previous non-attainment areas that have not recorded a violation of the NAAQS in several years and are in the process of achieving attainment status. Currently, the Pocatello area is classified as a moderate non-attainment area for fine particulate matter (PM_{10}).

3.7.2 Affected Environment

3.7.2.1 Air Quality Conformity Requirements

The Clean Air Act Amendments, 42 U.S.C. (United States Code) 7476(c), require Federal actions to conform to a State Implementation Plan (SIP) that identifies control strategies for ensuring that non-attainment and maintenance areas make progress toward bringing the region back into air quality conformance. The Transportation Conformity Rule, 40 CFR (Code of Federal

Regulations) Parts 51 and 93, establishes standards and guidelines to be followed for determining whether a proposed transportation project conforms to the SIP. Specifically, the proposed transportation project must come from an LRTP that demonstrates that the proposed action, when analyzed regionally with all other proposed transportation improvement projects, conforms to the control strategies and emission levels outlined in the SIP.

The 2002 LRTP Update identifies the Cheyenne Overpass, Pocatello project as a high-priority project. The BPO has also determined that the proposed improvements conform to the PM_{10} SIP (BPO 2003). A revised conformity determination was approved by the BPO on 11 March 2005. Air quality impacts associated with the project alternatives were evaluated using the screening criteria in the ITD policy *Project-Level Air Quality Screening, Analysis, and Documentation for Roadway Projects in Idaho* (ITD 2004). As described in that policy, because the study area is in attainment for carbon monoxide (CO) and because all intersections potentially affected by the proposed action operate at LOS C or better with the proposed action, a localized CO ("hot spot") analysis is not required.

Air Pollutants of Concern

Transportation projects primarily affect emissions of CO from vehicles. Other pollutants generated by traffic include ozone precursors, hydrocarbons, and nitrogen oxides. PM_{10} is also emitted in vehicle exhaust and generated by tire action on pavement, but the amount of PM_{10} generated by individual vehicles is small compared to other sources (such as wood-burning stoves). Sulfur oxides and nitrogen dioxide are also emitted by space heaters and motor vehicles, but concentrations of these pollutants are generally low except near large industrial facilities.

Ozone is a regional pollutant formed when nitrogen oxides and reactive organic gases react with various atmospheric constituents. Because the formation of ozone depends on numerous climatic and atmospheric variables, it is monitored and managed regionally and is not addressed at the project level.

3.7.3 Environmental Consequences

3.7.3.1 No-Build Alternative

With the No-Build Alternative, the existing Cheyenne Avenue crossing would be retained and no new east-west arterial would be constructed. CO and PM_{10} emissions associated with idling vehicles at the existing Cheyenne Avenue crossing would continue. Sand would continue to be applied during winter storms, which would result in resuspended road dust. It is not expected that the NAAQS for CO would be exceeded with the No-Build Alternative, because the

region is currently in compliance with the CO standard and future-year vehicle emission standards are expected to become more stringent. PM_{10} impacts are not expected because, in general, PM_{10} emissions from idling vehicles are a small component of overall regional PM_{10} emissions compared to industrial emissions.

3.7.3.2 Leo-Harper Alternative

Because PM_{10} is the air pollutant of concern in the project area, the primary air quality impact with the proposed action would be resuspended road dust. Resuspended road dust would contribute to elevated PM_{10} concentrations, particularly when sand accumulates on roadways. Project-related PM_{10} emissions would not be expected to exceed the applicable NAAQS and would be further minimized through routine road maintenance such as street sweeping and washing. In addition, localized emission levels could increase slightly near steep grades or where vehicles idle for short periods of time at intersections. Such emissions would be short-term and would not result in violations of the NAAQS.

3.7.3.3 Mitigation Measures

The proposed action will include routine best management practices (BMPs) to reduce resuspended dust on the roadways. Sand that is applied to roads in the winter will be cleaned up according to the agreements on road dust control between IDEQ and the City of Pocatello (City of Pocatello 1993).

Because no project-related air quality impacts were identified, no further mitigation is required.

3.8 Noise

This section evaluates traffic noise impacts associated with the proposed Cheyenne Overpass, Pocatello project. The analysis uses policies and procedures adopted by ITD for conducting traffic noise studies and considering noise abatement measures (ITD Draft Environmental Process Manual October 2004). For this proposed action, detailed noise modeling was limited to the residential areas along the proposed alignments. Traffic noise impacts were estimated using the FHWA Traffic Noise Model (TNM), Version 2.0.

3.8.1 Federal Highway Administration and ITD Noise Standards

FHWA Noise Standards. FHWA has adopted noise abatement criteria (NAC) for evaluating noise impacts associated with federally funded highway projects and for determining whether such impacts are enough to justify funding noise

mitigation actions. These criteria are summarized in Appendix A, National Ambient Air Quality Standards and FHWA Noise Abatement Criteria.

Idaho State Guidelines. The ITD Noise Abatement guidelines establish policies and procedures for conducting traffic noise studies, coordinating within ITD, involving the public (including local government agencies), and approving mitigation measures.

Under the ITD guidelines, the proposed action is considered a Type I project, which is defined as the construction of a highway at a new location or a physical alteration of an existing highway that substantially changes the alignment or increases the number of through-traffic lanes.

As applied by ITD, a design year noise level at or within 1 dBA of the NAC shown in Appendix A is considered to approach the NAC, a design year noise level greater than or equal to the NAC is considered to exceed the NAC, and a 15-dBA increase over existing noise levels is considered to substantially exceed the NAC. Noise levels within 1 dBA of the NAC in Appendix A are considered impacts. For example, for Activity Category B (the exterior activities around residences, motels, and so on), a noise level of 66 dBA would be considered an impact.

3.8.2 Affected Environment

3.8.2.1 Existing Noise Levels

The existing residences in the project area are single-family dwellings typical of a developed area. Within the project corridor, residential areas include the foothills west of Bannock Highway, the Constitution Park area on South 5th Avenue, and the Indian Hills and Indian Creek subdivisions near Cheyenne Avenue (see

Figure 3-5, Noise Model Receptor Locations).

Along South 5th Avenue, most of the residences are at-grade with the existing roadway. Residences along the east side of Bannock Highway are slightly below road grade, and those to the west are above road grade. Between Bannock Highway and South 5th Avenue, ground cover generally consists of pastures, shrub-steppe vegetation, or residential landscapes.

Existing noise levels were measured on 28 February 2001 between 9 AM and 4 PM at seven representative noise-sensitive receptor locations. Field measurement locations were selected where traffic noise from Bannock Highway or South 5th Avenue was the dominant source of noise or where residential receptors would be affected by the proposed alignments. Noise levels were measured for 15-minute sampling periods consistent with ITD noise measurement procedures (ITD 1998).

As shown in Table 3.8-1, measured noise levels ranged from 44 to 59 decibels (dBA) and were below the FHWA NAC of 66 dBA for residential locations.

Table 3.8-1. Measured Noise Levels

Field Measurement Site Number	Location	L_{eq} (dBA)
1	Church parking lot: Shoshoni Trail and Bannock Highway	57
2	Residential area: Single residence/horse farm east of Bannock Highway	47
3	Residential area: Opposite Leo Lane on Bannock Highway	59
4	Residential area: Indian Hills subdivision	44
5	Residential area: Indian Hills subdivision	52
6	Residential area: Middle of South 5th Avenue	57
7	Residential area: Mobile home park off South 5th Avenue and Broadway Street	53

Field Measurement Site Number	Location	L_{eq} (dBA)
	See	

Figure 3-5, Noise Model Receptor Locations, for field measurement locations.

3.8.3 Environmental Consequences

3.8.3.1 No-Build Alternative

With the No-Build Alternative, the Cheyenne Avenue project area would remain in its current configuration. Modeled sound levels with the No-Build Alternative are shown below in Table 3.8-2.

Table 3.8-2. Modeled Sound Levels

Receptor	Predicted Existing 2001[a]	2020 No-Build Alternative	2020 Leo-Harper Alternative
Site 1: Church Parking Lot - Shoshoni Trail and Bannock Highway	64	65	**69**
Site 2: Residential Area - East of Bannock Highway	48	49	50
Site 3: Residential Area - Leo Lane at Bannock Highway	59	63	65
Site 4: Residential Area - Indian Hills Subdivision	46	48	53
Site 5: Residential Area - Indian Hills Subdivision	60	62	**66**
Site 6: Residential Area - South 5th Avenue	57	58	55
Site 7: Residential Area - Mobile Home at South 5th Avenue and Broadway Street	59	60	61
BHE-1: Residential Area - NW of Indian Hills Subdivision (east of Bannock Hwy)	58	62	65
BHE-2: Residential Area - NW of Indian Hills Subdivision (east of Bannock Hwy)	55	59	64
BHE-3: Residential Area - NW of Indian Hills Subdivision (east of Bannock Hwy)	57	61	65
BHW-1: Residential Area - NW of Indian Hills Subdivision (west of Bannock Hwy)	60	64	**67**
BHW-2: Residential Area - NW of Indian Hills Subdivision (west of Bannock Hwy)	54	58	63
BHW-3: Residential Area - NW of Indian Hills Subdivision (west of Bannock Hwy)	54	58	61
IH-1R-1: Residence - Indian Hills Subdivision (Cree Avenue)	54	58	59
IH-1R-2: Residence - Indian Hills Subdivision (Cree Avenue)	49	52	56
IH-1R-3: Residence - Indian Hills Subdivision (Cree Avenue)	46	49	55
IH-2R-1: Residence - Indian Hills Subdivision (Cochise Avenue)	46	48	54
IH-2R-2: Residence - Indian Hills Subdivision (Cochise Avenue)	48	51	54
IH-2R-3: Residence - Indian Hills Subdivision (Cochise Avenue)	46	48	53
2-A: Residence - Cheyenne Avenue at South 2nd Avenue	54	59	51
IHSC-1: Soccer Field at Indian Hills School	58	61	62
SS-1: Residence SW of Indian Hills Subdivision	51	53	55

Bold = Noise level approaches (within 1 dBA) or exceeds FHWA Noise Abatement Criteria.

[a] Existing traffic noise levels predicted with computer model based on 2001 design-hour traffic compared to predicted 2020 design-hour conditions.

With the No-Build Alternative, modeled noise levels would range from 48 to 65 dBA. For the No-Build Alternative, the residential NAC (66 dBA) would not be exceeded at any of the modeled residential receptors and there would be no noise impacts. Compared to existing conditions, traffic noise levels in the year 2020 are expected to increase by 1 to 5 dBA due to increased traffic volumes on the existing roadway network.

3.8.3.2 Leo-Harper Alternative

With the Leo-Harper Alternative, the highest modeled traffic noise level would be 69 dBA at receptor Site 1. Noise levels at Site 1 (69 dBA), Site 5 (66 dBA), and BHW-1 (67 dBA) would exceed the residential NAC.

At most residential receptor locations, modeled noise levels would increase by 1 to 6 dBA over the No-Build Alternative and would not substantially exceed the residential NAC. The increase in noise levels would result from the growth in traffic volumes on Bannock Highway. The grade-separated crossing of the UPRR railroad tracks would also reduce the number of train whistles heard in the neighborhood.

3.8.3.3 Mitigation

A number of noise abatement measures can be effective at reducing traffic noise impacts.

Federal roadway projects must identify noise abatement measures that are both reasonable and feasible and are likely to be incorporated in the project design. Feasibility is an engineering determination about whether a noise abatement measure can be constructed at a particular location. Barrier feasibility considerations include such things as maintaining access, roadway maintenance, the existing topography of the area, and safety considerations.

Reasonableness considers the practicality of an abatement measure in terms of factors such as cost, amount of noise reduction provided, future noise levels, and the views and opinions of the affected residents.

ITD requires consideration and discussion of noise abatement measures if predicted traffic noise levels either approach or exceed the NAC or if future-year noise levels exceed existing noise levels by 15 dBA or more.

Noise Barriers

To be effective, noise barriers must block the line of sight between the highest point of a noise source (such as a truck’s exhaust stack) and the highest part of a receiver and must be long enough to prevent sound from passing around the ends of the barrier.

ITD evaluates many factors to determine whether barriers would be feasible and reasonable. The evaluation of engineering feasibility determines if the barrier could be built in a location to provide acoustic benefit at impacted residential receptors. Determination of reasonableness includes the number of residences benefited, the cost-effectiveness of the barrier, and the desires of nearby residents.

With the Leo-Harper Alternative, three widely separated receptors would have noise impacts (Site 1, Site 5, and BHW-1). Noise impacts at these locations are due to increased traffic volumes on Bannock Highway and South 5th Avenue, not proximity to the Leo-Harper Alternative. At the affected receptors, a noise barrier would not be feasible because the required driveways to the properties would result in openings in the barrier. As a result, noise barriers are not considered reasonable or feasible for the Leo-Harper Alternative.

Traffic Management Measures

In some instances, traffic noise levels can be reduced with traffic management measures such as traffic-control devices, access control restrictions, the prohibition of certain vehicle types, and/or reduced speed limits. Restricting vehicles would be unreasonable for the proposed action because the alignment is intended to provide east-west movement for all traffic. The proposed action also includes transit stops for mass transit vehicles.

Land Acquisition for Noise Buffers or Barriers

During right-of-way acquisition, additional undeveloped land could be acquired to act as a noise buffer. However, such acquisition would likely be unreasonably expensive.

Land Use Controls

Land use controls on future development can be used to reduce noise impacts. The City of Pocatello or Bannock County could implement land use plans and/or zoning to restrict future land uses along undeveloped portions of the proposed alignment roadways to restrict such future uses to those compatible with higher roadway noise.

Change of Vertical and Horizontal Alignment

The vertical and horizontal alignments evaluated in this EA for the proposed action are the only alignments identified that will meet the proposed action's purpose and need and remain sensitive to the environmental constraints affecting the project.

Noise Insulation of Buildings

Interior noise levels could be reduced by insulating public buildings in cooperation with the building owners. Specific construction techniques could include acoustical doors and windows; insulation in walls, floors, and ceilings; and ventilation systems designed without the need to open windows. Insulation

of buildings would not apply to residential structures, which constitute most of the sensitive receptors potentially affected by the proposed action.

3.9 Water Quality and Water Resources

This section describes the existing water quality and water resource conditions in the study area and evaluates the potential impacts of the proposed action on surface water and groundwater.

3.9.1 Water Quality Regulations

Water resources are regulated by the Clean Water Act of 1977 (CWA, also known as the Federal Water Pollution Control Act). The following sections of the CWA would apply to this project:

- **Section 401 (State Water Quality Certification).** If a project has the potential to discharge pollutants into a water body, the lead agency must request certification from IDEQ that the project will not violate State or Federal water quality standards. IDEQ evaluates the project based on the potential impacts to a water body's beneficial use(s). If the project is determined to be in compliance, it receives a Section 401 Water Quality Certification.
- **Section 402 (National Pollutant Discharge Elimination System [NPDES] permits).** The NPDES permit program is administered by IDEQ and applies to any project that disturbs more than 1 acre of land. The permit process requires the preparation of a Notice of Intent and a Storm Water Pollution Prevention Plan before receiving the permit to begin construction.
- **Section 404 (permit for placing fill in waters of the U.S.; see Section 3.10, Wetlands/Waters of the U.S.).** The Section 404 permit process is administered by the U.S. Army Corps of Engineers and is required before any fill is placed into jurisdictional wetlands.

3.9.2 Affected Environment

3.9.2.1 Surface Water

The Portneuf River originates in the Bannock, Portneuf, Fish Creek, and Chesterfield mountain ranges. Two small tributaries, Johnny and Gibson Jack Creeks, enter the Portneuf River within the study area. There are about 2.6 miles of streams and rivers in the study area. In 1969, the U.S. Army Corps of Engineers completed flood control work on the Portneuf River, which included

channelization, removing obstructions, and constructing levees north and south of the existing Cheyenne Avenue crossing (USGS 2001).

Johnny Creek flows from the Pocatello foothills and enters the study area across from the Shoshoni Trail after it passes through a culvert beneath Bannock Highway. After crossing Bannock Highway, the creek is channelized and contained by a small ditch. As shown in

Figure 3-6, Johnny Creek (Existing), after emerging from underneath Bannock Highway, the creek makes a 90-degree turn to the north in a channelized ditch on the east side of the highway. The creek continues north for about 500 feet, then angles back to the east and flows along the south side of a private driveway for about 700 feet before entering a horse pasture. The channel flows for another 300 feet before making another 90-degree turn to the north where it passes through the horse pasture and a small wetland before joining the Portneuf River.

The IDEQ administers State and Federal laws that address water quality. These laws provide a broad framework for water quality protection for each major river or drainage basin in the State. Within this framework, water quality standards have been established as parameters for protecting designated beneficial uses of water. Designated beneficial uses for the Portneuf River include agricultural water supply, cold-water biota (plants and animals), salmonid spawning, and secondary contact recreation.

The Portneuf River, including the river reach that traverses the Cheyenne corridor, is currently on the State's 303(d) list. The 303(d) list identifies impaired and threatened water bodies that need additional work beyond existing controls to achieve or maintain established surface water quality standards. Sediments, nutrients, and bacteria are present in the Portneuf River in concentrations exceeding their total maximum daily load thresholds as set by IDEQ.

EPA ranks watershed health using the Index of Watershed Indicators (IWI). The IWI is ranked on a scale of 1 to 6 with 1 being the least serious and 6 being the most serious. Both condition indicators and vulnerability indicators are used to determine a watershed's score. The Portneuf River watershed has an IWI score of 5, meaning more serious water quality problems. The condition indicator identified as being seriously compromised is "designated use attainment," which includes drinking water, aquatic life use support, fish and shellfish consumption, primary and secondary contact recreation (for example, swimming and boating), and agriculture. The two vulnerability indicators identified as moderate risks to surface water quality are agricultural runoff potential and population change.

3.9.2.2 Groundwater

The groundwater in the Portneuf Valley is contained within unconsolidated deposits of alluvium (Harrington and Bendixsen 1999). The local aquifer is known as the Lower Portneuf River Valley Aquifer (LPRVA) and is the

municipal water supply for Pocatello and Chubbuck. The aquifer extends from the head of the valley just south of Mink Creek to Chubbuck, where it overlies and adjoins the large regional aquifer of the Upper Snake River plain. The aquifer has an estimated surface area of 350 million square feet (8,000 acres) and stores about 220 billion gallons of water per year.

The LPRVA consists of two very different subsystems: the southern aquifer and the northern aquifer. The southern aquifer, which lies beneath the Cheyenne corridor, is a narrow, relatively shallow strip aquifer hosted in very permeable, coarse gravels characterized by high linear flow velocities and physically separated from the northern aquifer by prominent subsurface bedrock. Groundwater in the southern aquifer recharges most of the northern aquifer. The LPRVA relies on recharge from snowpack and precipitation in the southern Bannock Range for more than 70% of the total recharge required to sustain its water balance. Current municipal pumping withdrawals account for 80 to 85% of this consumption, leaving about 1.1 to 1.5 billion gallons of annual capacity remaining, or about 14 to 17% for future development.

The City of Pocatello's Water Department manages groundwater resources in the LPRVA. The department conducts water quality monitoring of aquifer withdrawals for municipal use as a requirement of the 1996 Safe Drinking Water Act. The City's 1999 report indicates that of the nine primary contaminants tested, none were found in concentrations that exceeded the maximum contaminant level standards in samples from wells currently in use. However, the presence of some contaminants (such as nitrate and barium) indicates that there are low levels of pollutants entering the aquifer, presumably originating from industrial and agricultural activities (City of Pocatello 2001).

3.9.3 Environmental Consequences

3.9.3.1 No-Build Alternative

With the No-Build Alternative, the existing Cheyenne Avenue crossing would be retained and no new east-west arterial would be constructed. Continued routine road maintenance within the Cheyenne Avenue corridor would not result in any measurable change in the surface water or groundwater hydrology within the project area. Stormwater runoff and the potential for associated contaminants to enter the Portneuf River and Johnny Creek would remain unchanged, and water quality impacts (for example, sediment) from road maintenance near surface waters would continue to occur.

Surface and groundwater conditions in the study area would continue to slowly degrade as population increases in the area and more pollutants are introduced into the surface and groundwater systems. With the No-Build Alternative, none

of the large soil disturbances or topographic changes from roadway cuts, fills, or project-induced development would occur.

3.9.3.2 Leo-Harper Alternative

An increase in surface runoff would occur as the result of about 12.6 acres of new pavement and other impervious surfaces (such as sidewalks) added by the alignment. Although vegetative ditches would affect the direction and velocity of runoff by changing local drainage patterns, the quantity and quality of runoff entering the Portneuf River or the underlying shallow aquifer would not significantly change within the project area.

Runoff from the new alignment would enter a closed storm drain system and detention basins before discharging into the Portneuf River. None of the activities required to construct the arterial are expected to increase surface water turbidity and sedimentation or affect the hydrologic capacity in the Portneuf River.

East of the South 2nd Avenue tie-in, runoff would flow in a closed storm drain system to the bottom of a vertical sag curve beneath I-15. From this bottom elevation (Station 4+130), runoff would be pumped to a detention basin before discharging into a stormwater retention pond, where it would either evaporate or percolate into the underlying aquifer. From east of I-15 to the intersection with South 5th Avenue, collected runoff would flow toward South 5th Avenue and discharge into the closed storm drain system that runs along South 5th Avenue.

Following construction, the amount of non-point pollutants contained in the stormwater entering local surface water or groundwater would increase because of the increased pavement area (12.6 acres) and the increased traffic over existing levels. Impacts on surface water quality would be minimized by directing arterial stormwater runoff into detention basins for treatment before discharge into the Portneuf River.

No short-term or long-term impacts on surface or groundwater hydrology are expected from this alternative.

3.9.3.3 Mitigation Measures

Impacts to water quality will be mitigated by use of temporary and permanent BMPs approved by IDWR, U.S. Army Corps of Engineers, EPA, U.S. Fish and Wildlife Service (USFWS), and ITD. The design of the required detention basins will be coordinated with IDWR, ITD, and the City of Pocatello during the design phase. If bank stabilization and erosion control structures are necessary, these will be designed to enhance the natural stream function according to the U.S. Army Corps of Engineers' *Stream Management—Concepts and Methods in Stream Protection and Restoration* (1999). Boulders, root-wads, and other natural materials found locally are the preferred methods.

Mitigation measures for construction-related impacts to surface water and groundwater are discussed in Section 3.19, Construction Impacts.

3.10 Wetlands/Waters of the U.S.

This section describes how wetlands/waters of the U.S. were identified and evaluated. Several field visits were made to the project study area to identify wetlands/waters of the U.S. The study area includes all jurisdictional waters along the Cheyenne Avenue corridor.

3.10.1 Affected Environment

The study area was surveyed to determine the extent of the jurisdictional waters. Two small wetlands and the riparian zone associated with the Portneuf River are the only wetlands found in the study area. The U.S. Army Corps of Engineers has made a preliminary jurisdictional determination that the project area contains wetlands and waters of the U.S. that are regulated under Section 404 of the Clean Water Act (see Appendix D, Coordination). Waters of the U.S. specific to this project are the Portneuf River.

Wetland A. As shown in

Figure 3-7, Johnny Creek Wetlands, Wetland A is located on Johnny Creek at the north end of an irrigated horse pasture near the Portneuf River. The 0.2-acre wetland is classified according to the Cowardin Classification System (Cowardin and others 1979) as a palustrine emergent wetland. The wetland appears to have been created by human-induced changes to the drainage pattern of Johnny Creek, which has been channelized and diverted between the river and Bannock Highway. In the spring, hydric soil conditions are maintained by stream flows in Johnny Creek through the wetland before the flows discharge into the river. The dominant vegetation includes red osier dogwood, reed canarygrass, and cattails.

Wetland B. Wetland B lies adjacent to the Portneuf River at the east end of a horse pasture and at the north edge of the Juniper Hills County Club (

Figure 3-7, Johnny Creek Wetlands). The 0.3-acre wetland is also classified according to the Cowardin Classification System (Cowardin and others 1979) as a palustrine scrub-shrub wetland. This wetland is associated with a narrow draw that extends off the river channel. The primary source of water for this wetland is not known, but may involve the historic channel of Johnny Creek, which appears to have carried water from the creek to the river before diversion to its current course. Subsurface water movement from the Portneuf River may assist in maintaining hydric soils. The dominant vegetation includes willow, reed canarygrass, red osier dogwood, Woods' rose, and common reed.

Riparian Zone of the Portneuf River. North of Cheyenne Avenue, the Portneuf River has been channelized and confined by levee construction. Riparian vegetation is sparse with the overstory composed of red osier dogwood and willow. The understory is dominated by reed canarygrass and other non-native grasses. South of Cheyenne Avenue, the river channel returns to a natural meander pattern. The riparian vegetation found along the river is more diverse and includes willow, reed canarygrass, red osier dogwood, smooth brome, Woods' rose, elm, currants, Great Basin wild rye, and Russian olive.

Although the lower reach of Johnny Creek is a jurisdictional waterway under the Clean Water Act, it is not considered a wetland because it lacks the required hydrophytic vegetation. East of Bannock Highway, the banks of Johnny Creek are dominated by upland grasses with Woods' rose and Russian olive occasionally present. Wetland species including sporadic clumps of reed canarygrass and a few willow saplings occur along the creek, but are less than 5% of the plant community present.

3.10.2 Environmental Consequences

3.10.2.1 No-Build Alternative

The No-Build Alternative would not affect any wetlands or waters of the U.S. within the project corridor.

3.10.2.2 Leo-Harper Alternative

No direct impacts to either Wetland A or Wetland B would result from the Leo-Harper Alternative. Direct impacts on the Portneuf River's narrow band of riparian vegetation would be avoided since the bridge spanning the river would be constructed outside the riparian zone.

3.10.2.3 Mitigation Measures

No mitigation measures are proposed.

3.11 Vegetation and Wildlife

This section describes the existing vegetation and wildlife habitat in the Cheyenne Overpass, Pocatello study area. A survey for dominant vegetation types and evaluation for potential wildlife habitat in the study area was performed. Consultation with IDWR and USFWS indicated no sensitive species or habitat in the study area (see Section 3.14, Threatened and Endangered Species, and Appendix D, Coordination).

3.11.1 Affected Environment

3.11.1.1 Plant Communities and Wildlife Habitats

Pasture. The southern portion of the study area consists mainly of introduced agricultural grasses, alfalfa, and mixed forbs typically associated with irrigated and non-irrigated pasture. Noxious weeds often occur at the perimeter or where fields have been left fallow. Wildlife associated with this community typically includes small mammals such as field mice, voles, and gophers, as well as red fox, coyote, and weasels. Bird species present include Canada geese, killdeer, European starling, American crow, and raptors such as red-tailed hawk, American kestrel, and rough-legged hawk. Pasture habitats also form part of the local winter range used by mule deer. Mule deer also use this habitat type when they move through the area foraging on grasses, crops, and other vegetation.

Late Seral Shrub-Steppe. The largest area of native habitat occurs in the northern half of the study area between South 2nd Avenue and I-15. This area consists of shrub-steppe communities dominated by densely spaced late seral big sagebrush, currants, and native grasses such as bluebunch wheatgrass, Sandberg's bluegrass, and various forbs and mosses. Prickly pear cactus and cheatgrass occupy the understory at moderate densities.

Wildlife found in this habitat include striped skunk, raccoons, voles, and badgers. This habitat also forms part of the winter range used by mule deer that move into the area from the surrounding Pocatello foothills.

Early Seral Shrub-Steppe. East of I-15 to South 5th Avenue, the plant communities found in undeveloped areas include early seral big sagebrush and rabbitbrush. Fire and past disturbances have affected the habitat value of the early seral shrub-steppe habitats. Overall, the habitat quality is low because shrub (big sagebrush and rabbitbrush) densities are low and the understory is

dominated by cheatgrass and weeds. Small mammals including mice and voles and their associated mammalian and avian predators are likely present in this habitat type.

Basalt Cliffs. Vegetation on the basalt cliffs south of I-15 and along South 2nd Avenue is composed of a late seral shrub-steppe community containing big sagebrush interspersed with western juniper, rabbitbrush, and spiny hopsage. Sandberg's bluegrass, cheatgrass, and a variety of forbs are present in the understory. The cliffs provide habitat for cliff swallow, perches for raptors foraging in the area, and nest sites for American kestrel, rock dove, and great horned owl. Black-billed magpie and other birds likely nest in the juniper trees and shrubs growing on the cliffs.

Portneuf River Riparian Zone. North of Cheyenne Avenue, the Portneuf River riparian zone generally provides low-quality wildlife habitat since it lacks plant diversity and structure. Mice, voles, and long-tailed weasels are likely the most common species using the narrow zone. Muskrat and beaver may occasionally be present in the river when traveling between more favorable habitats. Except for mallard, few waterfowl likely use this portion of the river.

Edson Fichter Nature Area. The Edson Fichter Nature Area is a 43-acre nature area managed by IDFG located west of the Portneuf River in the middle portion of the study area. The land has been heavily grazed, which has affected plant diversity and composition. Except for the riparian zone adjacent to the Portneuf River, plant communities consist mostly of introduced grasses and forbs. The Edson Fichter Nature Area Management Plan (IDFG, no date) notes that the east side of the nature area has been reseeded with a variety of grasses to improve plant diversity. Streambank stabilization projects are also planned to improve riparian and aquatic habitat along the Portneuf River.

Most upland habitat in the Edson Fichter Nature Area is composed of non-native forbs and grasses. A small stand of willow and Russian olive trees provides perching and nesting habitat for birds such as American crow and black-billed magpie and limited food for other birds. The Portneuf River meanders in a nearly natural state through the nature area and supports a number of migratory bird species.

IDFG's Edson Fichter Nature Area Management Plan seeks to improve wildlife habitat by planting native trees and shrubs and reseeding the area with native species to improve plant diversity and nesting cover. Nest platforms are provided for Canada geese and nest boxes are provided for American kestrels, mountain bluebirds, and wrens. Streambank stabilization and restoration projects along the Portneuf River are also planned to improve water quality for fish and riparian habitat for birds.

Mule deer are occasionally present in the nature area, although not common. Mice, voles, and other small mammals use the grassy/forb habitats and are preyed on by long-tailed weasels, red foxes, coyotes, and raptors.

Residential Areas. In residential areas, ornamental trees and shrubs, landscaped lawns, and native trees and shrubs are found. Habitat in residential areas is typical of a semi-urban environment. Planted trees, shrubs, and gardens provide some habitat for birds such as house sparrow, Oregon junco, European starling, black-billed magpie, American robin, finch, and rufus-sided towhee.

3.11.2 Environmental Consequences

3.11.2.1 No-Build Alternative

With the No-Build Alternative, the proposed action would not be constructed. There would be no adverse impacts to vegetation, wildlife, or wildlife habitat.

3.11.2.2 Leo-Harper Alternative

Vegetation. Between Bannock Highway and the Portneuf River (Phase 1), vegetation impacts would occur to approximately 5.2 acres of irrigated (2.6 acres) and non-irrigated (2.6 acres) pasture during construction of the arterial. Near the intersection with Bannock Highway, 0.9 acre of landscaping associated with a private residence and 0.6 acre of a tree farm would be lost. From the South 2nd Avenue tie-in and South 5th Avenue (Phase 2), about 7.8 acres of shrub-steppe vegetation would be lost, as well as about 1 acre of residential landscaping.

The total impact from the proposed action (Phases 1 and 2) would include a direct loss of 5.2 acres of pasture, 7.8 acres of shrub-steppe vegetation, 0.6 acre of cultivated conifers, and 1.9 acres of residential landscaping.

Wildlife. The loss of vegetation habitat would result in minor habitat fragmentation and a minor displacement of wildlife species associated with those habitat types. Because of the small amount of habitat lost, the impacts to wildlife are expected to be minor.

3.11.2.3 Mitigation Measures

No mitigation measures are proposed.

3.12 Floodplains

3.12.1 Affected Environment

The Federal Emergency Management Agency (FEMA) delineated the boundaries of the 100-year and 500-year floodplains for the National Flood Insurance Program in the late 1970s. As shown in

Figure 3-8, Floodplains, most of the study area west of the UPRR line is included in the floodplain Zone AO designation (areas of 100-year shallow flooding with depths between 1 and 3 feet). East of the railroad up to the toe of the basalt cliffs, the terrain is included in Zone B (area between limits of the 100-year and 500-year flood). Zone C (areas of minimal or no flooding) occur on or above the basalt cliffs that traverse the study area.

3.12.2 Environmental Consequences

3.12.2.1 No-Build Alternative

With the No-Build Alternative, there would be no impacts to floodplains within the Cheyenne Avenue corridor.

3.12.2.2 Leo-Harper Alternative

Construction of the proposed alignment from Bannock Highway to the South 2nd Avenue tie-in would occur within floodplain Zone B (protected by levees from the base 100-year flood event) and outside the river's designated 100-year floodplain (Zone AO). Within the Zone B floodplain, the footprint occupied by roadway fill would cover about 5.9 acres, but would not affect floodplain hydrology and flooding potential since the Portneuf River is contained by a levee designed to contain the 100-year flood event. All project features constructed on or above the basalt cliffs on South 2nd Avenue would have no effect on any FEMA-designated floodplains or their hydrology since they would be located at a higher elevation.

3.12.2.3 Mitigation Measures

The 100-year flood in Johnny Creek will be mitigated so that the current floodplains of Johnny Creek will not be exceeded.

3.13 Wild and Scenic Rivers

There are no wild and scenic rivers in the study area.

3.14 Threatened and Endangered Species

ENDANGERED SPECIES BIOLOGICAL EVALUATION

This section addresses the current conditions of the habitat of special-status species in the Cheyenne Avenue study area. Special-status species include plant and animal species that are currently listed, or are proposed for listing, as threatened or endangered by USFWS. Special-status species also include species listed by IDFG. Species listed by either agency are given special consideration when an activity could affect individuals or habitat of the protected species.

3.14.1 Affected Environment

Table 3.14-1 lists the threatened and endangered (T&E) species that are federally listed and protected under the Endangered Species Act (ESA) as well as those species of special status identified by USFWS (letter dated 21 December 2001) and IDFG (letter dated 6 December 2000) for this proposed action. The Conservation Data Center (letter dated 6 December 2000) did not identify any known occurrences of the species listed in IDFG's letter within the study area. BLM (letter dated 19 December 2001) stated that no sensitive plant species or habitat types are known to occur on the BLM parcel under their jurisdiction. Correspondence letters are included in Appendix D, Coordination.

Table 3.14-1. Threatened and Other Special-Status Species Potentially Present in the Cheyenne Corridor

Common Name	Scientific Name	Federal Status
Bald eagle	*Haliaeetus leucocephalus*	Threatened
Utah valvata snail	*Valvata utahensis*	Endangered
Gray wolf	*Canis lupus*	USFWS Experimental Non-essential
Yellow-billed cuckoo	*Coccyzus americanus*	Candidate

Source: Bannock County List SP#1-4-05-SP-510, 1 June 2005

3.14.2 Environmental Consequences

This section addresses the potential for impacts to special-status species or their habitat from proposed project improvements in the Cheyenne Avenue corridor.

3.14.2.1 No-Build Alternative

With the No-Build Alternative, the proposed action would not be constructed. There would be no impacts to threatened, endangered, or special-status species in the Cheyenne Avenue corridor.

3.14.2.2 Leo-Harper Alternative

DETERMINATION

Bald Eagle (Haliaeetus leucocephalus). The Cheyenne Avenue study area is south of areas along the Snake River that are used by bald eagles for nesting and perching during the spring and fall. The proposed action would be built in a commercial and residential area about 15 miles from any known perching area and 25 miles from any known nesting area. Agency guidelines state that new facilities cannot be constructed within 3.1 miles of a bald eagle nest territory and cannot be adjacent to wintering habitat. The proposed action would be outside this 3.1-mile buffer. Therefore, the proposed action would have "no effect" on any perching or nesting habitat associated with the bald eagle.

Gray Wolf (Canis lupus). The Cheyenne Avenue study area is within the city limits of Pocatello in a commercial and residential area about 40 miles from any known habitat for the gray wolf. There are no known sightings of wolves in the area. Therefore, the proposed action would not affect any habitat associated with the gray wolf.

Utah Valvata Snail (Valvata utahensis). The Utah valvata snail is found only in the Snake River and possibly in tributaries of the Snake River such as the Portneuf River. The proposed action would completely span the Portneuf River and there would be no "in-water" work. Because the proposed action would not affect the Portneuf River, it would not affect any habitat associated with the Utah valvata snail.

CONCLUSION

Since the proposed action would not affect habitat associated with the above-listed species, ITD has determined that there would be "no effect" on endangered or threatened species listed under the Endangered Species Act of 1973, as amended.

3.15 Historic and Archaeological Resources

Cultural resources include prehistoric and historic sites, structures, districts, artifacts, or any other physical evidence of human activity considered important to a culture or community for scientific, religious, traditional, or any other reasons. The study area for this project includes all land that would be disturbed by construction activities for the Cheyenne Overpass, Pocatello project.

3.15.1 Affected Environment

A cultural, historic, and paleontological resource inventory was completed to comply with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The cultural resources discussed in this EA have been divided

into three categories: archaeological resources, architectural resources, and traditional cultural properties (TCPs).

- **Archaeological resources** are locations where human activity has measurably altered the earth or left deposits of physical remains.
- **Architectural resources** are standing buildings, bridges, irrigation features, or other structures of historic, engineering, or aesthetic significance.
- **Traditional cultural properties** are cultural resources associated with the practices and beliefs of a living community that are rooted in its history and are important in maintaining the cultural identity of the community. The properties can include the locations of historical events, sacred areas, source areas for raw materials used in tool manufacture, traditional plant and animal procurement areas, and natural features.

Federal law protects only those cultural resources that are considered significant (that is, eligible for listing in the National Register of Historic Places, or NRHP). In general, cultural resources must be at least 50 years old to be considered eligible. According to NRHP eligibility criteria, "significance" is present in districts, sites, buildings, structures, and objects that:

- Are associated with events that have made a significant contribution to the broad patterns of our history; or
- Are associated with the lives of persons significant in our past; or
- Embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction; or
- Have yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

The cultural resource activities conducted for the project include background research, field surveys, and Tribal consultation. Details of the resource inventory are documented in *Cheyenne Overpass, Pocatello, Bannock County Idaho Archaeological and Historical Survey Report, Archaeological Survey of Idaho* (Shapiro and Associates, Inc. 2003).

3.15.1.1 Background Research

The background research conducted for this project revealed two previously recorded sites in the study area (10BK7 and 10BK149), both of which are prehistoric and are considered eligible for listing in the NRHP.

Site 10BK7 (Petroglyphs and Lithic Scatter). This site consists of 5 sections (9 panels) of petroglyphs on a bedrock basalt cliff face with a sparse obsidian lithic scatter. The petroglyphs (approximately 41) extend about 375 feet along the rim. This site is visible from Cheyenne Avenue and is readily accessible to the public. Because of its visibility and accessibility, some vandalism has occurred. These petroglyphs are significant because they have cultural and religious value to the Shoshone-Bannock Tribes and are part of a Shoshone-Bannock TCP. This site is near the Leo-Harper Alternative.

Site 10BK149 (Petroglyphs). This site consists of a petroglyph panel on the base of a large broken boulder just south of a storage unit facility on South 2nd Avenue. This site is near the Leo-Harper Alternative.

3.15.1.2 Field Surveys

Field surveys located two prehistoric/historic sites (C-14 and C-22) associated with the Leo-Harper Alternative. Both sites are recommended as eligible for listing in the NRHP.

Site C-14 (Frank Property). Six buildings are on the Frank property: a 1933 residence, garage, tool/garden shed, animal shed, chicken coop, and large shed. The residence is a one-and-a-half-story Craftsman-style house with a rectangular plan and a hipped gable roof. The rural setting of the farmstead is intact, although a modern house has been constructed on the north side of the property. Several large trees surround the residence. The house, garage, and garden shed are in good condition and retain historic integrity. The outbuildings retain much of their historic integrity and are evocative of a 1930s–1940s farmstead. This property is one of the few remaining farms in the southwestern part of Pocatello.

Site C-22 (Petroglyphs and Indian Camp). This site consists of a possible ethnohistoric or prehistoric petroglyph panel, historic rock inscriptions, and two small rock shelters. The site is located along a natural break in the basalt cliff face that forms the eastern edge of the Portneuf River floodplain. No prehistoric artifacts were noted at the site. A local resident (Grady 2002) called this area “Indian Camp” because, in the 1940s and 1950s, members of the Shoshone-Bannock Tribes used to camp in this area (five to six families at a time). The petroglyph panel is not typical of prehistoric rock in the area, which consists mainly of zoomorphs and anthropomorphs (this glyph contains linear elements).

3.15.1.3 Tribal Consultation

The project study area falls within the traditional territory of the Shoshone-Bannock Tribes. In its government-to-government capacity, FHWA consulted with the Shoshone-Bannock Tribes to ensure that potential impacts on cultural

resources from federal actions are taken into consideration as part of the decision-making process.

Tribal consultations are ongoing and will continue throughout the course of the project as milestones and critical decision points are reached. Through this on-going consultation effort, FHWA hopes to involve the Tribes in project planning and ensure that TCPs and other Tribal issues and concerns regarding the proposed action are considered and addressed.

3.15.2 Environmental Consequences

The following discussion addresses only those impacts to cultural resources that are recommended as eligible for listing in the NRHP. A summary of known cultural resources that would be affected by the proposed action is presented in Table 3.15-1.

Table 3.15-1. Cultural Resources Potentially Affected by Cheyenne Overpass, Pocatello Project

Alternative	Cultural Resources in Project Area
Leo-Harper	10BK7, 10BK149, C-14, C-22, Shoshone Bannock TCP

An action results in adverse impacts on a cultural resource eligible for listing in the NRHP when the action alters the resource's characteristics, including relevant features of its environment or use, that qualify it for inclusion in the NRHP. Potential impacts could include:

- Physical destruction, damage, or alteration of all or part of the property
- Neglect of a property resulting in its deterioration or destruction
- Transfer, lease, or sale of the property
- Isolation of the property from or alteration of the character of the property's setting when that character contributes to the property's qualification for the NRHP
- Introduction of visual, audible, or atmospheric elements that are out of character with the property or that alter its setting

3.15.2.1 No-Build Alternative

With the No-Build Alternative, the existing Cheyenne Avenue railroad crossing would be retained and no new east-west arterial would be constructed. With the No-Build Alternative, two of the petroglyph sites (10BK7 and 10BK149) would continue to be visible from existing roadways. Because of this visibility, these sites would likely continue to be visited by the public.

3.15.2.2 Leo-Harper Alternative

The Leo-Harper Alternative would result in increased traffic in the vicinity of site 10BK149. In addition, this alternative would bring increased noise and traffic into the vicinity of the Shoshone-Bannock TCP. No other impacts are anticipated under this alternative.

3.15.2.3 Mitigation Measures

No mitigation measures are proposed.

3.16 Hazardous Materials

This section discusses the occurrence of known and potential hazardous material sites in and near the study area. Issues of concern associated with such sites are:

- The spread of existing soil or groundwater contamination through construction activities
- Increased construction costs
- Short-term and long-term liability associated with acquiring environmentally distressed properties
- Health and safety concerns for construction workers
- Construction delays

3.16.1 Affected Environment

The IDEQ maintains a list of environmental databases on sites with known contamination and on sites that are regulated according to the requirements of State or Federal laws. The following State and Federal databases were reviewed for potential hazardous waste/material sites within the study area:

- Idaho State Leaking Underground Storage Tanks (LUST) List
- Idaho State Underground Storage Tank (UST)/Aboveground Storage Tank (AST) List
- Idaho State Solid Waste Landfills List
- National Priorities List (NPL) – priority CERCLA sites
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, Superfund) sites
- Resource Conservation and Recovery Information System (RCRIS) List

According to IDEQ, heating oil USTs are not included in the State database and may be associated with older buildings in the area. Farm and residential USTs less than 1,100 gallons are not regulated by EPA and therefore are not listed on the State UST database (O'Rorke 2000).

A field inspection of the study area was conducted on 28 March 2001. Areas surveyed included local businesses and areas scattered along the potential area of impact. A Hazardous Wastes/Materials Preliminary Site Assessment Checklist (ITD Form 654-A) was completed and appears in Appendix E, ITD Forms.

Review of IDEQ's UST database found that the UPRR is the only facility with IDEQ registered storage tanks in or adjacent to the study area (IDEQ 2000). The UPRR runs northwest-southeast through the corridor just east of the Portneuf River and essentially bisects the area between I-15 and Bannock Highway. UST sites maintained by the UPRR exist along the railways, and UST and LUST sites may exist around UPRR facilities near Cheyenne Avenue (Roberts 2000). According to IDEQ, exact locations of these sites were not available.

Other UST sites occur along South 5th Avenue east of I-15, but no sites occur within the area of project impact. The database search identified multiple UPRR sites along tracks at undisclosed locations with completed cleanup between 11 April and 5 October 1990. The Idaho landfill database revealed no facilities within the study area. The review of available public records found no facilities listed on the RCRIS database within the potential area of impact (EPA 2001a). No Superfund sites occur in the project area (EPA 2001b).

The known UST sites in the study area are considered closed, which means that no additional actions are required of the property owner because residual contamination (if any) is at concentrations less than recommended cleanup levels (RCLs), or Tier I screening levels, and/or remaining contamination does not pose a threat to human health or the environment.

The potential exists for accidental hazardous spills or leaks from trains passing through the study area and the presence of hazardous chemicals and substances used for general railroad operation and maintenance. According to IDEQ, UPRR occasionally vacuums the railroad tracks, leaving a stockpile of materials within 100 feet north of the Cheyenne Avenue/UPRR crossing. Complaints have been made from concerned citizens regarding stockpile odors. IDEQ reports that the pile is analyzed for hazardous materials before being shipped to a landfill, but the potential exists for hazardous materials to occur near the stockpile (Roberts 2000). IDEQ reported no other potential problem areas.

3.16.2 Environmental Consequences

3.16.2.1 No-Build Alternative

The No-Build Alternative would not cause any impacts to hazardous material sites in the study area.

3.16.2.2 Leo-Harper Alternative

The Leo-Harper Alternative would eliminate the Cheyenne Avenue/UPRR at-grade crossing and thus the potential for car/train accidents involving trains hauling hazardous materials. No construction activities would disturb present or

past UST, LUST, or RCRIS sites in the project study area. Information obtained from site assessments and the review of regulatory agency databases indicates no record of current hazardous material/waste issues within the area of potential impact. Consequently, the potential for hazardous material/waste impacts due to project construction is considered low. Additionally, there was no evidence to indicate UPRR USTs exist within the area of impact along the railways or along South 5th Avenue. No excavation would take place near the railroad tracks, eliminating the possibility of uncovering hidden tanks. The UPRR yards are out of the project area, eliminating the potential for impacting waste stockpiles.

Demolishing structures that contain lead paint or asbestos could affect worker safety and the public.

3.16.2.3 Mitigation Measures

Measures will be implemented to prevent the spread of contamination and to limit worker exposure. In the case of a known chemical hazard, the site remedy will be negotiated through coordination with IDEQ and/or EPA. Previously unidentified sites or contamination could be encountered during construction. In such a case, all work will stop in the area of the contamination according to ITD Standard Specifications, and ITD and IDEQ will be consulted to determine the appropriate remedial measures. Hazardous wastes will be disposed of according to ITD Standard Specifications and the requirements and regulations of IDEQ and EPA.

Potentially hazardous materials generated during demolition will be handled and disposed of according to applicable State and Federal solid and hazardous material regulations.

3.17 Visual Resources

Visual resources include the natural and human-made features that give a particular environment its aesthetic quality. The analysis considers visual resource sensitivity, which is the degree of public interest in a visual resource and concern over adverse changes in the quality of the resource.

3.17.1 Affected Environment

The study area is situated in the upper reaches of the Portneuf River Valley. The valley is bounded to the east by the Pocatello Range and to the west by the Bannock Range foothills. Forming an unobstructed backdrop to the landscape are dramatic views of Scout Mountain and its associated slopes and foothills. To the east, long-range views include South Putnam Mountain, Chinese Peak, and Camelback Mountain; their slopes and foothills provide a visually pleasing medium range view from the project area. West of the corridor, long and mid-range views include Slate Mountain and its foothills, respectively.

In the study area, the valley is about 1 mile wide. It exhibits floodplain and low terrace features formed by the slow and steady migration of the Portneuf River back and forth across the valley floor. Riparian vegetation along the river contrasts with the surrounding valley and its mosaic of pastures, shrub-steppe plant communities, and human occupation.

A basalt lava flow underlies a large portion of the valley, often visible as basalt cliffs rising several tens of feet above the surrounding terrain. These southeast-to-northwest-trending basalt cliffs form a distinct part of the natural landscape. The corridor's three most prominent cliff faces are located west of South 5th Avenue between the I-15 interchange and Shores Road, east of South 2nd Avenue from Ross Park to the AMI-Kirkham Trail parking area, and west of I-15 in the south half of the study area.

The Portneuf Greenway Trail along the Portneuf River and the AMI-Kirkham Trail between the Pocatello Zoo and the trailhead parking area are two principal viewpoints for experiencing the south valley area.

3.17.1.1 Sensitive Viewpoints

The visual effect that a road project may have depends in part on the sensitivity of views from the proposed road project, or of the project from various viewpoints in the surrounding area. Although there are no formally recognized areas of scenic beauty in the corridor, there are several particularly sensitive visual resources and sensitive viewpoints including trails, nature areas, golf

courses, residential developments, and travel corridors. Sensitive viewpoints are described in Appendix B, Visual Impact Analysis and Renderings.

3.17.2 Environmental Consequences

This section describes the effects of the alternatives on various sensitive viewpoints in the study area based on the changes to physical and natural resources (such as vegetation and topography) and the specific design features implemented (such as cuts, fills, and retaining walls). Figures LH-1 through LH-5 and Figures SS-1 through SS-5 in Appendix B, Visual Impact Analysis and Renderings, simulate some of the permanent visual changes expected after construction of the Leo-Harper Alternative. These visual renderings are preliminary and should be used as a tool to assist the public in understanding the magnitude of the visual effects expected.

3.17.2.1 No-Build Alternative

With the No-Build Alternative, the existing Cheyenne Avenue railroad crossing would be retained and no new east-west arterial and 2nd Avenue tie-in would be constructed. In the absence of providing the roadway improvements proposed, none of the larger topographic changes and soil disturbances resulting from construction-related cuts, fills, and bridge construction would occur. Instead, the physical character of the project area would remain much the same.

In the absence of the proposed action, views in the south valley area would change as additional population growth and associated residential and commercial development occur. Over time, the corridor's sensitive viewpoints would experience a gradual transition across the landscape from a rural-residential setting to a more urban-residential character as open pastures and the abutting foothills are developed.

3.17.2.2 Leo-Harper Alternative

With the Leo-Harper Alternative, portions of the new alignment would be visible from existing trails. Some residents of the Indian Hills and Indian Creek developments would have an unobstructed view of the new arterial, bridge, and tie-in. The new roadway would dominate the foreground view to the northwest. Similarly, most residents in the foothills west of Bannock Highway as well as others in the immediate vicinity of the project (that is, residents along Tech Farm Road and Leo Lane) would also have an unobstructed view of the project.

From the new alignment at the western terminus on Bannock Highway, motorists would have an unobstructed view of open pastures, scattered residences, a golf course to the northwest, and the Indian Hills subdivision to the southeast. The

arterial would then rise over the Portneuf River, UPRR yard, and South 2nd Avenue. From the bridge crossing and where the arterial tops the basalt cliffs on South 2nd Avenue, panoramic vistas of the valley and surrounding mountains would dominate middle to distant views across the landscape.

Detailed descriptions of visual impacts associated with the Leo-Harper Alternative are included in Appendix B, Visual Impact Analysis and Renderings.

3.17.2.3 Mitigation Measures

All disturbed areas not needed for permanent roadway facilities or rock-cut slopes will be replanted. Landscape plans for the roadway will include replacement landscaping to reduce impacts from the loss of vegetation. To reduce visual impacts in the Edson Fichter Nature Area, native trees and shrubs will be planted in front of the MSE structure between the two bridges. Additionally, the MSE walls will be an earthtone color to further minimize their visual impact and the contrast with the surrounding area.

3.18 Energy

This section describes how energy demands would be affected in the short and long term with the No-Build and build alternatives. Energy is evaluated primarily in the form of vehicle fuel consumption.

3.18.1 No-Build Alternative

Although the fuel efficiency of vehicles is expected to improve over the next 25 years, increased delay at the Cheyenne Avenue/UPRR crossing, coupled with the stop-and-go traffic from future growth, would increase overall energy requirements with the No-Build Alternative.

3.18.2 Build Alternatives

The build alternatives would relieve the delay and consequent congestion at the Cheyenne Avenue/UPRR crossing and would increase mobility and connectivity through the southern Portneuf Valley. These changes would likely cause a small increase in fuel economy in the area. However, an overall decrease in energy consumption would probably not result in any major benefits, nor would it cause or contribute to additional energy problems.

3.19 Construction Impacts

This section describes the temporary construction impacts associated with the Cheyenne Overpass, Pocatello project. Construction-related issues are listed for only those resources for which impacts have been identified.

3.19.1 No-Build Alternative

No construction activities would occur with the No-Build Alternative; therefore, there would be no construction-related impacts.

3.19.2 Leo-Harper Alternative

Social. Residents in the area and people using key roadways such as Bannock Highway, South 5th Avenue, Cheyenne Avenue, and South 2nd Avenue would experience temporary inconveniencies because of noise, dust, and travel delays. Such delays could also affect response times for fire, law enforcement, and emergency medical services. In addition, access to businesses would be temporarily disrupted during construction. Because the construction activities are likely to occur in two 18-month phases over a 3-to 4-year period, only small sections of the corridor would be affected at any one time. During Phase 1 of the project, traffic volumes would likely increase through Ross Park.

Economic. Short-term impacts including delays and detours would result from construction of the Cheyenne Overpass, Pocatello project. Travel patterns could temporarily change as a result of delays and detours, especially on South 2nd Avenue. The construction contractor would be required to develop a traffic plan that defines measures to minimize impacts on traffic in the Cheyenne Avenue corridor and adjacent streets. Additionally, there are positive short-term economic benefits that would result from construction, including the addition of construction-related jobs and materials procurement.

Air Quality. Construction with the build alternatives would result in temporary impacts to air quality in the study area because of dust, particulates, and emissions from construction equipment and slow-moving traffic.

- **Fugitive dust** is generated by construction equipment such as haul trucks and earth-moving vehicles.
- **Particulates** include small dust particles that are resuspended by vehicle movement over paved and unpaved surfaces, dirt tracked onto paved surfaces from unpaved areas at access points, and material blown from uncovered haul trucks.
- **Mobile source emissions** are increased emissions from vehicles whose speeds are slowed due to the increased congestion caused by the construction activity.

Noise. Construction noise impacts would be temporary and would be minimized by following ITD Standard Specifications for noise and vibration control. Extended disruption of normal activities is not expected, although receptors near the project that would more likely be affected include the Indian Hills and Indian Creek subdivisions and Shoshoni Trail. A considerable amount of blasting would be required to perform the rock excavation and cuts required for either build alternative, especially during Phase 2 of the project. The blasting would produce high, short-duration noise levels.

Water Quality and Water Resources. Construction-related impacts to surface water and groundwater would be minor during construction. Direct impacts regarding the quantity and quality of the stormwater runoff to the Portneuf River during construction are expected to be negligible because the proposed bridge crossing and piers would be constructed outside of the river's riparian zone, and no in-stream diversions or construction activities in the river channel would be required. There may be temporary localized increases in soil erosion caused by excavation, grading, and other construction activities; however, neither build alternative is expected to result in construction-related sediments leaving the construction site and entering the Portneuf River.

Wetlands/Waters of the U.S. No direct impacts to wetlands due to construction are anticipated because the bridge spanning the river and its piers would be constructed outside the riparian zone. In addition, clearing operations would be limited to what is needed for project construction, and all wetlands, riparian areas, and stream corridors would be avoided.

Vegetation and Wildlife. Construction activity tends to have a great, though temporary, effect on wildlife in or near the right-of-way because of higher noise levels, movement of construction equipment, lights, and other activities.

Hazardous Material Sites. Some contamination may be encountered on some properties as discussed in Section 3.16.2.3, Mitigation Measures. In addition, previously unidentified sites or contamination could be encountered during construction. In such a case, all work would stop in the area of the contamination and ITD and IDEQ would be consulted to determine the appropriate remedial measures.

Phasing. The phasing of construction for the Cheyenne Overpass, Pocatello project would increase the length of time when the corridor would be under construction. If construction is phased as outlined in Chapter 2, Description of Alternatives, it is estimated that the construction impact would last for about 18 months per phase. If the funding were available and the construction of Phase 2 were completed shortly after Phase 1, the minimum traffic impact would be about 3 years.

Phase 1 of the proposed action has been identified as having independent utility; that is, the phasing of the project would have no unintended consequences for any resource identified within Phase 2 of the project. In addition, the phasing of the project would have no impacts to most resources beyond those impacts identified in this document with the full build scenario.

3.19.3 Mitigation Measures

Social. During construction, BMPs will be used to minimize and control substances that could cause adverse human health effects. Measures will be implemented to reduce and control dust emanating from the site. Construction activities will occur during normal working hours and will not disrupt the area with excessive noise. Access to businesses and residences will be maintained during the construction and post-construction phases of the project, as this is ITD's policy with respect to access issues on all ITD roadway improvement projects. A committee consisting of local residents and other stakeholders will coordinate with the design team to ensure adequate access during construction. Improvements will be phased to minimize traffic impacts, and a traffic control plan will be developed to maintain access to land use and minimize traffic impacts during construction.

Economic. Impacts to businesses during construction will be mitigated by ensuring that businesses have access during construction. A committee consisting of local business owners and other stakeholders will coordinate with the design team on access issues.

Air Quality. Fugitive dust during construction will be mitigated according to a dust control plan to be developed by the contractor according to Idaho Division of Air Quality standards. This plan will include measures for minimizing fugitive

dust such as applying dust suppressants and water sprays, minimizing the extent of disturbed surface areas, street sweeping, and restricting activities during periods of high wind. Necessary air quality permits will be obtained. These temporary air quality impacts would be mitigated with emission-control measures such as spraying exposed soil with water and street sweeping.

Noise. The contractor will be required to comply with the ITD Standard Specifications for Noise and Vibration Control. Additionally, if any planned construction activities would not be in compliance with Bannock County's or the City of Pocatello's noise control ordinance, a Bannock County Health Department permit for a temporary variance from the restrictions of the county's noise control ordinance will be obtained.

Water Quality and Water Resources. Construction-related mitigation measures include the use of BMPs according to ITD's standard specifications and the NPDES permits. At a minimum, BMPs will include the following:

- **Implement a Storm Water Pollution Prevention Plan (SWPPP) that reduces sediment load production and storm water runoff and addresses all State and Federal government requirements.** The SWPPP will be incorporated into the final design plans, and a Notice of Intent (NOI) form will be submitted to IDWQ before construction.
- **Use ITD's BMPs to minimize short-term water quality impacts.** Silt fences, catch basins, sediment barriers, and fiber mats will be used during construction to minimize temporary impacts to the Portneuf River. Silt fences and barriers will be used to prevent sheet flow and concentrated flows from entering disturbed areas.
- **Revegetate exposed soils with the minimal use of fertilizers to prevent nutrient loading from runoff to disturbed areas.** Areas will be revegetated with approved plants, approved certified weed-free seed, and shrubs. Invasive non-desirable species will be controlled during revegetation. The planting will be monitored for success and replanted if necessary until the success criteria are met. Approved seeding, planting methods, success criteria, and evaluation methods will be determined in cooperation with IDWQ, USFWS, and other agencies as part of the SWPPP before construction.
- **Employ an Environmental Control Supervisor during construction according to ITD requirements.** The Environmental Control Supervisor will monitor construction activities and ensure that the BMPs are being effectively and appropriately used and the SWPPP requirements are being met.

Wetlands/Waters of the U.S. Clearing operations will be limited to what is needed for project construction, and all wetlands, riparian areas, and stream corridors will be avoided. In addition, BMPs such as silt fencing for erosion control and environmental fencing to delineate sensitive areas and keep heavy equipment out of the area will be employed.

Vegetation and Wildlife. Noxious weeds are present in the study area. To ensure that project activities do not contribute further to the introduction, establishment, and spread of weedy species, a noxious weed management plan will be specified in the construction contract under "Special Provisions." Abatement measures will be implemented in the study area during construction. Environmental fencing will be placed around sensitive resources to avoid unnecessarily disturbing the soil. This will reduce weedy plant species invasion as well as maintain the most contiguous wildlife habitat.

Hazardous Material Sites. Construction-related mitigation measures are addressed in Section 3.16.2.3, Mitigation Measures. Measures will be implemented to prevent the spread of contamination and to limit worker exposure. In the case of a known chemical hazard, the site remedy will be negotiated through coordination with IDEQ and/or EPA. Previously unidentified sites or contamination could be encountered during construction. In such a case, all work will stop in the area of the contamination according to ITD Standard Specifications, and ITD and IDEQ will be consulted to determine the appropriate remedial measures. Hazardous wastes will be disposed of according to ITD Standard Specifications and the requirements and regulations of IDEQ and EPA.

Potentially hazardous materials generated during demolition will be handled and disposed of according to applicable State and Federal solid and hazardous material regulations.

Phasing. Access to businesses and residences will be maintained during the construction and post-construction phases of the proposed action. A traffic control plan will be developed to maintain access to homes and businesses and to minimize traffic impacts during each construction phase. Phased construction will be completed in the manner that is least disruptive to the natural and human environments.

3.20 Local Short-Term Uses versus Long-Term Productivity

The short-term use of the environment versus preserving its long-term productivity is related to converting the natural productivity of the land, a renewable use, to a developed use that has a relatively short economic life. Improvements to the Cheyenne Overpass, Pocatello study area would be consistent with local land use and transportation plans and are consistent with regional projections of population increases. Because most of the study area is already developed, the build alternatives would not alter the long-term productivity of the area.

3.21 Irreversible and Irretrievable Commitment of Resources

Implementing either of the build alternatives involves a commitment of a range of natural, physical, human, and fiscal resources. A considerable amount of fossil fuels, labor, and highway construction materials such as cement, aggregate, and bituminous material would be expended. Additionally, large amounts of labor and natural resources would be necessary for fabricating and preparing the construction materials. These materials are generally not retrievable; however, they are not in short supply and their use would not have an adverse effect on the continued availability of these resources.

Constructing the proposed action would also require a substantial expenditure of irretrievable funds. The commitment of these resources is based on the premise that residents in the immediate area, the State, and the region would benefit by the improved quality of the transportation corridor. These benefits would consist of improved accessibility, increased safety, and savings in transport time, all of which are anticipated to outweigh the commitment of these resources.

3.22 Cumulative Impacts

3.22.1 Purpose and Regulatory Basis

The project team analyzed potential cumulative effects to the environment that could be associated with implementing the proposed Cheyenne Overpass, Pocatello improvements in conjunction with past, present, or reasonably foreseeable future actions. Specifically, the cumulative impact analysis has been prepared according to the requirements of NEPA and guidance from the Council on Environmental Quality (CEQ), *Considering Cumulative Effects under the National Environmental Policy Act* (CEQ 1997). The CEQ regulations implementing the procedural provisions of NEPA define cumulative effects as:

> The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal, or non-Federal) or person undertakes such actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time (40 CFR 1508.7).

Potential cumulative impacts were evaluated with other past, present, and reasonably foreseeable projects in the Cheyenne Avenue corridor study area and adjacent areas potentially affected by indirect impacts from the project.

3.22.2 Development in the Study Area

Development in the study area began in the early 1900s. Past actions that have influenced this segment of the study area were railroad development, interstate construction, and the conversion of rural land to commercial and residential development.

Currently, development in the study area consists mainly of residential growth coupled with some commercial development. In the future, more land is expected to be taken out of agricultural production and converted to residential use.

For the Cheyenne Overpass, Pocatello project, few direct or indirect impacts are expected that would contribute to cumulative impacts. Other planned actions in the future include the widening of Bannock Highway and the south extension of the Portneuf Greenway Trail. Resource areas that could experience cumulative impacts include land use and regional air quality problems from increased vehicle emissions.

3.22.3 Secondary and Cumulative Impacts

3.22.3.1 Land Use

Indirect or secondary land use changes are expected to occur due to access, zoning, and land ownership patterns in the project area. After Phase 1 of the proposed action is completed, lands east of the tie-in would be expected to develop for residential and/or commercial use. Such a land use change would affect agricultural lands that are currently committed to irrigated and non-irrigated pasture uses. Secondary impacts resulting from completion of Phase 2 of the proposed action would likely be limited to commercial development near the project's terminus with South 5th Avenue.

3.22.3.2 Air Quality

Implementation of the Leo-Harper Alternative would have a short-term impact on air quality during construction. In conjunction with other regional projects (for example, widening Bannock Highway), the Cheyenne Overpass, Pocatello project would contribute incrementally to overall regional transportation-related vehicle emissions.

Future growth in background traffic volumes and changed traffic patterns would affect cumulative air quality impacts. General population growth and associated development in the Pocatello region would increase background traffic volumes on local and regional roadways, which would in turn increase traffic-related air pollutant emissions. However, the proposed action would improve level of service on the local roadway system, thereby reducing combustion-related emissions. Emissions of CO and PM_{10} would be within allowable limits and would not violate the NAAQS. The net impact of the proposed action would have little effect on future background air quality conditions within the Pocatello and Portneuf Valley areas.

3.23 Mitigation Summary

The build alternatives require mitigation of certain impacts. The initial goal was to avoid or minimize environmental impacts. For those resources for which impacts could not be avoided or minimized, potential mitigation measures were developed.

Table 3.23-1 below summarizes the mitigation proposed for each impacted environmental resource.

Table 3.23-1. Mitigation Summary

Impact Category	Mitigation Measures
Land Use	None
Farmland	**Leo-Harper Alternative.** Owners of farmland within the right-of-way of the proposed action would be compensated according to the requirements of the URAA of 1970, as amended, and other State and Federal guidelines.
Social Environment	**Leo-Harper Alternative.** To minimize the potential for negative impacts to the social environment, the design team consulted with agency and Tribal leaders, as well as neighborhood and business groups, and developed conceptual designs that are sensitive to the cultural resources, existing and planned neighborhoods, and community services in the study area. In addition, per community recommendations, raised crosswalks will be installed in Ross Park to reduce traffic speeds and safely accommodate pedestrian traffic through the park.
Right-of-Way Acquisitions and Relocations	**Leo-Harper Alternative.** The acquisition of property for new right-of-way and the displacement of individual residences as a result of the proposed action will be mitigated according to Federal, State, and local relocation policies. Assistance and re-establishment expenses will be provided to the displaced property owners and other affected property owners according to eligibility requirements and other requirements of the URAA of 1970, as amended. Relocation resources will be available to each relocated business without discrimination.
Economics	**Leo-Harper Alternative.** Throughout the planning phase of the proposed action, business owners, land owners, and residents have participated in the development of the alternatives in an effort to minimize economic impacts. These groups will continue to be consulted with and encouraged to participate in the public outreach program associated with this project throughout the design and construction phases. Access to businesses will be maintained during the construction and post-construction phases of this project, as this is ITD's policy with respect to access issues on all ITD roadway improvement projects. Adequate signage will be placed in construction areas to direct motorists to businesses and industrial areas.
Considerations Relating to Pedestrians and Bicyclists	**Leo-Harper Alternative.** Appropriate signage will be placed along Bannock Highway so that motorists are aware of the school zone and are alert for children in the neighborhood. Crossing guards will also be stationed at major intersections near the school.
Air Quality	**Leo-Harper Alternative.** The proposed action will include routine BMPs to reduce resuspended dust on the roadways. Sand that is applied to roads in the winter will be cleaned up in according to the agreements on road dust control between IDEQ and the City of Pocatello (City of Pocatello 1993).
Noise	None
Water Quality and Water Resources	**Leo-Harper Alternative.** Impacts to water quality will be mitigated by use of temporary and permanent BMPs approved by IDWR, U.S. Army Corps of Engineers, EPA, U.S. Fish and Wildlife Service (USFWS), and ITD. The design of the required detention basins will be coordinated with IDWR, ITD, and the City of Pocatello during the design phase. If bank stabilization and erosion control structures are necessary, these will be designed to enhance the natural stream function according to the U.S. Army Corps of Engineers' *Stream Management—Concepts and Methods in Stream Protection and Restoration* (1999). Boulders, root-wads, and other natural materials found locally are the preferred methods.
Wetlands/Waters of the U.S.	None
Vegetation and Wildlife	None
Floodplains	**Leo-Harper Alternative.** The 100-year flood in Johnny Creek will be mitigated so that the current floodplains of Johnny Creek will not be exceeded.

Impact Category	Mitigation Measures
Wild and Scenic Rivers	None
Threatened and Endangered Species	None
Historic and Archaeological Preservation	None
Hazardous Materials	**Leo-Harper Alternative.** Previously unidentified sites or contamination could be encountered during construction. In such a case, all work will stop in the area of the contamination according to ITD Standard Specifications, and ITD and IDEQ will be consulted to determine the appropriate remedial measures. Hazardous materials will be handled according to ITD Standard Specifications and the requirements and regulations of IDEQ and EPA. Potentially hazardous materials generated during demolition will be handled and disposed of according to applicable State and Federal solid and hazardous material regulations.
Visual Resources	**Leo-Harper Alternative.** All disturbed areas not needed for permanent roadway facilities or rock-cut slopes will be replanted. Landscape plans for the roadway will include replacement landscaping to reduce impacts from the loss of vegetation. To reduce visual impacts in the Edson Fichter Nature Area, native trees and shrubs will be planted in front of the MSE structure between the two bridges. Additionally, the MSE walls used will be an earthtone color to further minimize their visual impact and the contrast with the surrounding area.
Energy	None
Permits and Clearances	None
Construction	**Leo-Harper Alternative.** *Social.* During construction, BMPs will be used to minimize and control substances that could cause adverse human health effects. Measures will be implemented to reduce and control dust emanating from the site. Construction activities will occur during normal working hours and will not disrupt the area with excessive noise. Access to businesses and residences will be maintained during the construction and post-construction phases of the project, as this is ITD's policy with respect to access issues on all ITD roadway improvement projects. A committee consisting of local residents and other stakeholders will coordinate with the design team to ensure adequate access during construction. Improvements will be phased to minimize traffic impacts, and a traffic control plan will be developed to maintain access to land use and minimize traffic impacts during construction. *Economic.* Impacts to businesses during construction will be mitigated by ensuring that businesses have access during construction. A committee consisting of local business owners and other stakeholders will coordinate with the design team on access issues. *Air Quality.* Fugitive dust during construction will be mitigated according to a dust control plan to be developed by the contractor according to Idaho Division of Air Quality standards. This plan will include measures for minimizing fugitive dust such as applying dust suppressants and water sprays, minimizing the extent of disturbed surface areas, street sweeping, and restricting activities during periods of high wind. Necessary air quality permits will be obtained. These temporary air quality impacts would be mitigated with emission-control measures such as spraying exposed soil with water and street sweeping.

Impact Category	Mitigation Measures
Construction (*continued*)	*Noise.* The contractor will be required to comply with the ITD Standard Specifications for Noise and Vibration Control. Additionally, if any planned construction activities would not be in compliance with Bannock County's or the City of Pocatello's noise control ordinance, a Bannock County Health Department permit for a temporary variance from the restrictions of the county's noise control ordinance will be obtained. *Water Quality and Water Resources.* Construction-related mitigation measures include the use of BMPs according to ITD's standard specifications and the NPDES permits. At a minimum, BMPs will include the following: • Implement an SWPPP that reduces sediment load production and storm water runoff and addresses all state and federal government requirements. • Use ITD's BMPs to minimize short-term water quality impacts. • Revegetate exposed soils with the minimal use of fertilizers to prevent nutrient loading from runoff to disturbed areas. • Employ an Environmental Control Supervisor during construction according to ITD requirements. *Wetlands/Waters of the U.S.* Clearing operations will be limited to what is needed for project construction, and all wetlands, riparian areas, and stream corridors would be avoided. In addition, BMPs such as silt fencing for erosion control and environmental fencing to delineate sensitive areas and keep heavy equipment out of the area will be employed. *Vegetation and Wildlife.* Noxious weeds are present in the study area. To ensure that project activities do not contribute further to the introduction, establishment, and spread of weedy species, a noxious weed management plan will be specified in the construction contract under "Special Provisions." Abatement measures will be implemented in the study area during construction. Environmental fencing will be placed around sensitive resources to avoid unnecessarily disturbing the soil. This will reduce weedy plant species invasion as well as maintain the most contiguous wildlife habitat. *Hazardous Materials.* Construction-related mitigation measures are addressed in Section 3.16.2.3, Mitigation Measures. Measures will be implemented to prevent the spread of contamination and to limit worker exposure. In the case of a known chemical hazard, the site remedy will be negotiated through coordination with IDEQ and/or EPA. Previously unidentified sites or contamination could be encountered during construction. In such a case, all work will stop in the area of the contamination according to ITD Standard Specifications, and ITD and IDEQ will be consulted to determine the appropriate remedial measures. Hazardous wastes will be disposed of according to ITD Standard Specifications and the requirements and regulations of IDEQ and EPA. Potentially hazardous materials generated during demolition will be handled and disposed of according to applicable State and Federal solid and hazardous material regulations. *Phasing.* Access to businesses and residences will be maintained during the construction and post-construction phases of the proposed action. A traffic control plan will be developed to maintain access to homes and businesses and to minimize traffic impacts during each construction phase. Phased construction will be completed in the manner that is least disruptive to the natural and human environment.
Local Short-Term Uses vs. Long-Term Productivity	None
Irreversible and Irretrievable Commitment of Resources	None